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A CASE OF GLIOMA OF THE SPINAL CORD.

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CASE.—A girl, aged 11 years, was admitted to the Adelaide Hospital under my care on Friday, March the 19th, and died about ten hours after admission.

She was one of a family of ten. Her father died about six years previously from pulmonary tuberculosis; her mother is alive and healthy. One brother died suddenly at the age of sixteen from heart disease, and a sister died from scarlatina. The other members of the family are alive and well, but none of them are very strong or robust.

With the exception of an attack of typhoid fever when an infant she had not suffered from any serious illness, but, like the other members of the family, she was not a strong child, and was a martyr to chilblains.

For the past six years she had been an inmate of a small orphanage in the neighbourhood of Dublin, where I have every reason to know she was well looked after.

Five weeks before her death she complained one morning of pain and stiffness in her neck, and it was noticed that she kept her head bent over to the left side. She was otherwise in her usual health, and it was thought she had simply got a "stiff neck." As her neck

did not improve during the next two or three days she was seen by the local doctor, who agreed with the diagnosis already made.

He saw her altogether on three or four occasions, but apparently no symptoms presented themselves suggestive of any grave disorder.

On Friday, March the 12th, a week before her admission to hospital, though still suffering from a stiff neck she was able to amuse herself with her playmates on a fly-pole in the grounds. On that evening her mother went down to see her, and finding that she was still complaining of her neck, brought her back to town in order to have further advice.

On her arrival home her mother noticed, when at tea, that the girl did not use her right hand, and was apparently unable to do so. She seemed out of sorts, tired, and had very little appetite.

On Saturday and Sunday she remained in much the same condition, but on Monday, as she was not so well, her mother sent for a doctor who lived near. On Tuesday she complained of severe pain at the back of her neck and down her spine, and could not bear to be moved. The pain was more severe on Wednesday; she had not passed any water since the previous morning, and the bladder was emptied by a catheter. She was able, though with difficulty, to raise her right leg slightly off the bed, but her right arm was paralysed. There was no improvement in her condition on Thursday, and on Friday she was admitted about noon to hospital. Her temperature, which had been taken during the week previous to her admission, was on all occasions subnormal.

I saw her almost immediately after her admission, and she then appeared to be very ill. She was lying on her back, and resented any examination owing to the pain produced by the slightest movement. She was quite conscious; her face was deadly pale with a marked cyanotic hue. Her respirations were frequent, and an examination of her chest revealed abundant fine râles over the front on both sides. The back could not be examined. The breath-sounds over the middle lobe of the right lung were pneumonic in character.

Her heart-sounds were normal in character, but feeble.

Her bladder was distended, and a pint of normal urine was withdrawn by catheter.

Her right arm and leg were paralysed, but sensation was present, both tactile and painful. Her left leg and arm appeared to be unaffected.

The knee-jerk was slightly present on the right side; absent on the left. I saw her again in the evening shortly before her death,

and found the pulmonary signs had cleared up with the exception of those in the right middle lobe.

Her breathing was more rapid, and her whole appearance that of approaching death—anxious expression with livid pallor of the face. She was quite conscious, her one wish being not to be moved on account of the pain it gave her. Her left arm and leg had become paralysed. Death occurred as the result of respiratory failure.

Twenty-four hours after death we made a post-mortem. The abdominal organs and heart were normal. The middle lobe of the right lung was consolidated, but otherwise the lungs were normal.

Prof. J. A. Scott has kindly furnished me with the following account of the appearances presented by the central nervous system: On removing the brain, in the section of the spinal cord there was apparently a blood-clot in the centre of the cord. The spinal cord was then removed, and with the brain hardened with formalin. Vertical cross-sections of the brain showed nothing abnormal in front of the crus cerebri. The pons and medulla were separated from the cerebellum, and cross-sections were made at intervals of a couple of millimètres. The pons was normal, as was the upper portion of the medulla. At about the level of the calamus scriptorum the blood discolouration could be first seen near the posterior surface; from this it could be traced downward in the successive sections for a distance of about 11 cm. into the upper part of the cervical cord. At its commencement above it appeared as a somewhat circular spot, about 3 mm. in diameter, with a slightly lighter centre, while 10 cm. down it was about 2 mm. long and 1 mm. wide, lying to the right side. Between 10 cm. and 11 cm., where it terminated, it became a little larger, about 2 mm. in diameter, and extended close to the central commissure into the post-internal column of the opposite (left) side.

Microscopical sections were made from portions taken in the medulla and the upper part of the cord. Both have the same structure—that of a glioma with some small hæmorrhages diffused in it.

The outer portion was composed of a network of the processes of neuroglia-cells, with a number of small round cells and some blood-vessels.

Inside this was a zone of free blood and in the centre a hyaline substance, probably an albuminous fluid fixed by the hardening agents. In the neighbourhood of the main portion several smaller portions could be seen, of which a similar description might be given.

The small tumour lay in the postero-internal column in the cord, where it pressed on the various structures and considerably distorted the normal portions of the white and grey matter. The crossed pyramidal tract in the right side was degenerated.

The case, I think, presents several features of interest.

Firstly, the locality of the tumour. Tumours of the spinal cord are relatively rare. Schlesinger found only 147 in 35,000 autopsies and 151 in 6540 tumours. The ratio to tumours of the brain is 1 to 13.

Secondly, the age of the patient and the character of the tumour. In a table of Schlesinger quoted by Starr, the proportion of meningeal intra-dural spinal cord tumours to medullary was 142 to 125. Of these latter tubercle accounted for 62, glioma 20, sarcoma 14, gumma 7. The remainder were lipoma, cysticercus, melano-sarcoma, neuroma or uncertain. Tumours of the spinal cord occur in childhood, but with less frequency than in adult life. In a series of 100 cases as many as 70 were found in patients over the age of fifteen years.

Thirdly, the duration of the symptoms. Though the duration varies somewhat according to the nature of the tumour, it is on an average about sixteen months from the onset of symptoms to death. In this case the duration was only five weeks; a week before death occurred the girl seemed to be in her usual health, except for the pain and stiffness in her neck.

The locality of the tumour, viz. the cervical region, was typical of glioma occurring in the spinal cord, and the tendency to hæmorrhages has also been frequently observed. Probably hæmorrhage accounted for the rather sudden onset of the symptoms, which caused a fatal termination to the case.

The condition of the patient on her admission to hospital, as well as the short time at my disposal, prevented me from making as careful an examination as I should have wished. The facts that I was able to elicit were: (1) motor paralysis commencing in the right arm, then involving the right leg, and finally, shortly before death, the left arm and leg; (2) no loss of sensation, tactile or painful, in the legs; and (3) no apparent wasting of the muscles.

A CASE OF FŒTAL RICKETS, WITH COMMENTS.

By J. R. CHARLES, M.A., M.D., M.R.C.P.,

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DIVERGENT views being held as to the existence or non-existence of such a disease as fœtal rickets, the following case, which presents several points of interest, seems worthy of description. The following are the notes of the case:

Family history.—Father and mother both alive and quite healthy. Another of their children, aged 9 years, is considered by the parents to have been born with rickets, but in support of this statement there is no very great amount of evidence. There is no history of any other bone trouble on either side of the family. No history of any disease of the thyroid or of tubercle, and no evidence of any syphilitic strain can be obtained. The maternal grandmother died from cancer, and one uncle died from cancer of the throat. There have been no miscarriages. The mother had good health during this pregnancy up to the birth of the patient.

Past history.—This child is the third of a family of five. The labours were all easy with the exception of this one. For the birth of this child, although it was calculated that she was three weeks premature, instrumental delivery was necessary, pointing probably to enlargement of the head. The parents are both very distinct in their statements that the child was born with deformed bones, and that their doctor told them, when the child was two weeks old, that it was suffering from rickets. Unfortunately this doctor is in South America, and it has been impossible to communicate with him. The bones at birth were enlarged at the ends, but the bowing has increased progressively with the age of the child. The eruption of the teeth occurred at the right time. The child did not suffer from snuffles, or sores round the mouth, or rashes. She was breast-fed until the age of nine months, when she was given milk and barley-water in equal parts, with bread and butter. She has been free from bronchial symptoms, laryngismus, night sweating, gastro-intestinal trouble and convulsions.

She began to walk when about three years old.

The anterior fontanelle did not close till the child was between three and four years old.

About two years ago she broke her right femur as the result of a slight fall, the remaining signs of which can be seen in the skiagraph.

294 CASE OF FŒTAL RICKETS, WITH COMMENTS.

The patient was brought up to the infirmary on account of the swelling in her neck, which, about two weeks previously, was said to have increased in size and to have become painful, causing some difficulty in swallowing, with some embarrassment of respiration.

She is a bright and intelligent child. These is a considerable

FIG. 1.

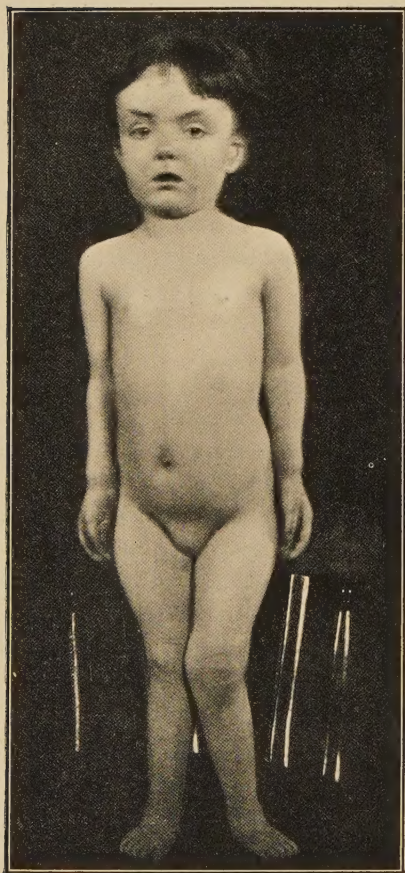
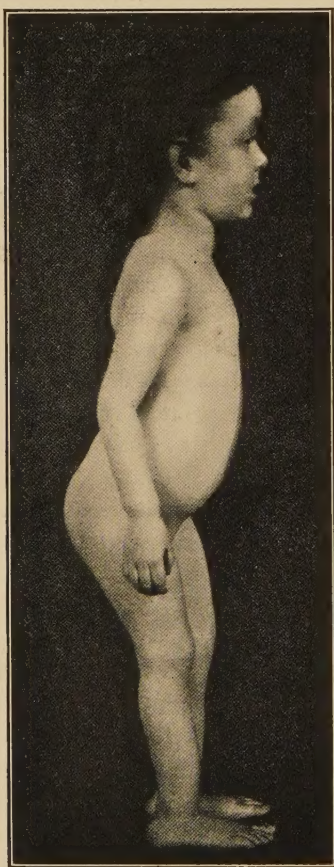


FIG. 2.



enlargement of the thyroid, which extends on the right side almost to the angle of the jaw, and downwards to the upper surface of the clavicle; anteriorly the edge overlaps the anterior surface of the trachea. The isthmus is enlarged and easily felt, while the left lobe is smaller than the right, extending to within three quarters of an inch of the angle of the jaw.

There has been no pain or any difficulty in swallowing or breathing since admission.

The consistence of the thyroid is soft, and in parts almost semi-fluctuating.

The head is square-shaped; frontal eminences marked; parietal eminences enlarged. Nose moderately well formed; nasal bones firm; fontanelles closed.

Teeth badly shaped and carious.

No enlargements or deformities are felt in the upper arms or clavicles. The radius and ulna of both arms are slightly bowed out, and the lower epiphyses are much enlarged. There is no tenderness.

There is slight lateral curvature of the spine. When standing the trunk is inclined unduly forwards, giving an undue prominence to the buttocks, simulating to a certain extent in this respect an achondroplastic condition.

There is enlargement of the epiphyses of the lower ends of the femora, and of the tibiæ and fibulæ, especially at the lower ends of the latter bones. The right femur is bent and shows the line of fracture. Both tibiæ are much bowed outwards and forwards.

There is distinct beading of all the ribs at the costochondral junctions.

The laxity of the ligaments and fasciæ are well marked. The legs when fully extended at the knees can be flexed on the trunk so that the feet touch the face. The very marked degree of flat-foot is very evident (Figs. 1 and 2).

The heart and lungs show no abnormal sign, except that there is slight impairment of the note over the right base behind, with some slight diminution of the entry of air over this area, due probably to the lateral curvature of the spine and the enlargement of the liver.

The abdomen is full and prominent. The liver dulness extends from the fifth rib to just below the costal margin, while the liver edge can be felt about a finger's breadth below the edge of the ribs. Nothing else abnormal is found in the abdomen.

The blood.—Red cells normal in number and shape; hæmoglobin, 90 per cent.; white, 9200; polymorphonuclear, 48 per cent.; large mononuclear, 7.5 per cent.; small mononuclear, 38.5 per cent.; eosinophiles 5.5 per cent.; transitional, 1.5 per cent.

The mental condition of the child is very bright and intelligent. Skin and hair are soft.

The points in favour of the case being one of rickets are:

- (1) The condition of the bony skeleton.
- (2) The enlargement of the liver.

- (3) The laxity of the ligaments round the joints.
- (4) The flatness of the feet.
- (5) The history of lateness in "walking," and of closure of the anterior fontanelle.
- (6) The absence of signs pointing to other conditions with which fœtal rickets might be confounded.

For example, in the family, or the patient, no evidence of *syphilis* is forthcoming.

Against *achondroplasia* we have the absence of any disproportionate shortness of the limbs, any marked shortening of the base of the skull, or of marked stunting of the nasal bones. The characteristic trident hand of achondroplasia is entirely absent, and there is no shortness of the hands. The waddling gait is also absent. In achondroplasia the finger-tips rarely reach as low as the level of the great trochanter. The thyroid in this case is enlarged, and therefore perhaps *cretinism* should be mentioned in the diagnosis, but the signs and symptoms of this state are so essentially different from those of this patient that they need not be enumerated.

Similarly the disease called *cleido-cranial dysostosis*, which affects during embryonic life mainly the membranous bones and not the cartilage bones, and from which I believe the patient in this photograph has suffered, may be dismissed (Fig. 3).

Granted, then, that the case is one of fœtal rickets, we must ask what relation such a condition has to the post-natal disease. Ballantyne states that changes in the bones of the fœtus occur, especially at the close of intra-uterine life, which "resemble as closely the form of rickets which develops in the second year of life, as any ante-natal disease can resemble any post-natal one."

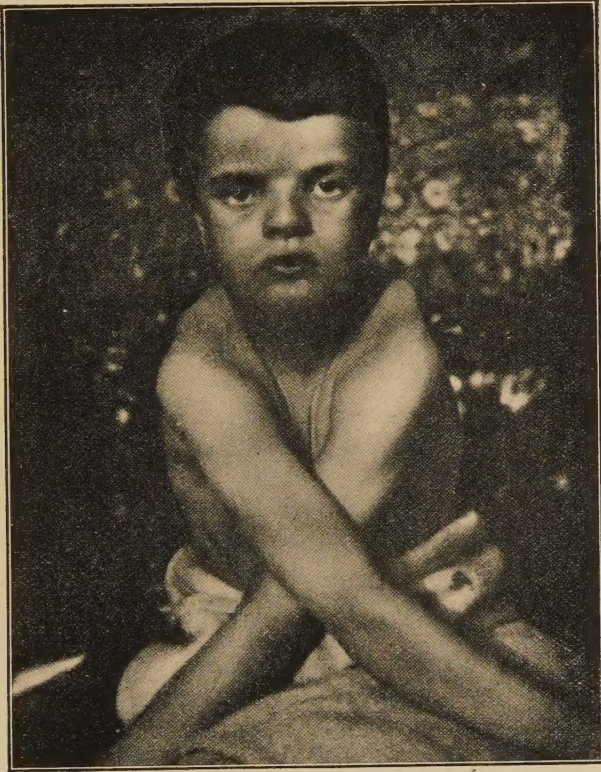
If we consider the generally accepted views with regard to the ætiology of the ordinary infantile form of the disease, it is obvious that many of the predisposing causes, such as want of fresh air, sunlight, and generally defective hygiene, cannot come into play. The fœtus might, however, perhaps be supplied with a deficiency of fat and protein, and possibly this may occur when the mother is in bad health during pregnancy.

In this case, however, the mother states that her health was perfectly satisfactory throughout her pregnancy.

One cannot help thinking that other factors may be at work which exert a modifying influence on the formation of bone, and, indeed, on other structures, such as muscles, ligaments, and liver, which lead to results simulating the post-natal disease, but owning, perhaps, a different ætiology.

It is recognised that the privation of lime has little to do with the development of ordinary rickets, that the administration of lime salts will not cure rickets, and lastly, that the majority of rickety children have been fed on a diet which is particularly rich in lime salts. Still, the disease is of such a nature that rickety bone contains only 32-52 per cent. of lime, as compared with the 63-65 per

FIG. 3.



cent. in normal bone, the harmful factors at work preventing the proper calcification of the bones. Presumably there is a similar imperfect calcification in the foetal bones in foetal rickets.

The question then arises: To what is this due? May it conceivably be in any way connected with the condition of the thyroid? There would appear to be some connection between the calcium metabolism of the body and the activity of the thyroid.

Ballantyne says that "with regard to experiments upon animals,

it has been stated that the removal of the thyroid in a pregnant animal will cause the birth of a fœtus with rickets," and "further, it has been found experimentally that in cases where the thyroid of the bitch was in part removed the fœtal puppy showed a hypertrophied thyroid but no colloid." Hector Mackenzie, in the last volume of Allbutt's 'System,' writes that "various experiments made on young animals prove that the removal of the thyroid arrests skeletal growth." Fœtal rickets is, however, not an arrest of the skeletal growth, but a perversion of the process. The arrested condition of the skeletal growth is due to arrest of the functions of the thyroid, as in cretinism. Is it not reasonable to suppose that the perversion of the skeletal growth in intra-uterine life may be due to perversion of the thyroidal function, and that the enlargement of the thyroid which is sometimes met with, as in this case, is a manifestation of increased glandular activity to compensate for such supposed perversion?

The excretion of phosphorus is much increased after the administration of thyroid gland, and also in exophthalmic goitre, and it may be that the beneficial effects of phosphorus in rickets are exerted through the thyroid. In Von Noorden's book on metabolism it is stated that "the good effect of phosphorus therapy in rickets is said by some to be due to improvement in the calcium circulation," and the "tetany of rickets is attributed to the poverty of calcium in the central nervous system."

The work of Blair Bell is interesting also in this connection. In a paper read before the Obstetrical Section of the Royal Society of Medicine last year he produced considerable evidence to show that menstruation is dependent upon the calcium metabolism of the body. In a paper in the 'British Medical Journal' of April the 20th, 1907, he advanced the view that pregnancy is terminated when a large accumulation of calcium occurs in the mother's blood, due to the amenorrhœa of pregnancy bringing about contraction of the uterine muscles. These observations on calcium metabolism are of much interest from the medical standpoint, and, I think, possibly in connection with this case, because it has long been recognised that the thyroid is frequently enlarged during menstruation and pregnancy. In the opinion of Blair Bell calcium metabolism is largely influenced by the secretion of the ductless glands. In a paper read before the Liverpool Medical Institution he stated that he had found the blood calcium index low in cases of exophthalmic goitre, *i. e.* in a condition of hyperthyroidism. He then excised the thyroids, and, as far as he could, the parathyroids of four cats. Two died in a few days,

one with tetanic convulsions, the other with great muscular weakness and some spasm. A third died in about a fortnight with great muscular weakness. The calcium index rose to a very high figure (as much as 18 in one case) before death.

It will be interesting to see if these results are confirmed. As far as they go these experiments tend to prove that in conditions of hyperthyroidism the blood calcium index is low, while in conditions of hypothyroidism the blood calcium index is high. In cretinism, therefore, the blood calcium index should be high during the stage when the calcium is being excreted, instead of being utilised for the formation of bone.

Poynton and Cheadle state that the viscera are deficient in phosphate of lime in rickets.

Mackenzie, in an article on "Graves' Disease," makes the remark that osteomalacia has been noted in connection with Graves' disease. Here, again, we meet with another example of thyroid disturbance associated with a perversion of calcium metabolism.

It is interesting also to observe that Silvestri records successful treatment both of tetany occurring in successive pregnancies and in the convulsions of rickets, by the administration of calcium salts. Each of these conditions he regards as due to some disturbance in the metabolism of calcium, probably a hypocalcification of the nervous system.

It would appear, therefore, that quite possibly the enlargement of the thyroid in this case has some connection, either directly or indirectly, with the bony changes, and that it is not present as an independent entity.

THE TREATMENT OF CEREBRO-SPINAL MENINGITIS IN CHILDREN WITH FLEXNER AND JOBLIN'S ANTI-SERUM.

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IN a recent contribution* on meningitis in children, we drew attention to the extreme importance to be laid upon the value of

* 'Liverpool Med.-Chir. Journ.,' January, 1909.

the examination of the cerebro-spinal fluid obtained by lumbar puncture.

In this, a further contribution to the same subject, we must introduce it by again emphasising this point. If we consider meningitis in children as a whole, the first question which always arises before the clinician is, Is the case tuberculous, or one of the other forms of the disease?

Since our last paper, in all the cases of tuberculous meningitis in the Children's Infirmary, fourteen in number, with the exception of one we shall mention, we have been able to demonstrate the presence of the tubercle bacillus in the cerebro-spinal fluid. This fact, which has been previously demonstrated by other workers, is of such value as to make lumbar puncture not only justifiable, but an essential procedure in every case of meningitis.

Of the remaining forms of the disease, the most common which is met with in children is that due to the *Diplococcus meningitidis*. Here the diagnosis eventually depends entirely on the demonstration of the Gram-negative organism in the cerebro-spinal fluid. This in itself is of importance, but in this contribution we wish to draw attention to the recent researches of Flexner and Joblin, and the results of the serum which they have prepared for this form of the disease, results which are undoubtedly and unequivocally a very striking advance upon all other methods hitherto adopted in the treatment of cerebro-spinal meningitis.

Previous to these researches the mortality has naturally varied in different epidemics in accordance with the severity of the type; the average given by Holt* is 70 per cent. for all cases, and in children 86 per cent. In the sporadic form the mortality is somewhere approximating this figure, Dunn, in the Boston Children's Hospital, from 1899-1907, having a mortality of from 69 to 80 per cent. annually.

Flexner's published statistics from America and this country show that, taken altogether with all forms of the disease, the mortality has been reduced to 29·6 per cent., demonstrating that there can be no doubt that Flexner and Joblin's anti-meningococcic serum is a most valuable therapeutic agent. In a letter recently received from Dr. Flexner, he tells us that his serum has now been tested in 523 cases, of which 368 have recovered. These figures are large enough to place reliance on, but when those cases are examined where the serum has been administered within a reasonable time from the onset of the disease there is more reason

* 'Diseases of Infancy and Childhood,' 4th edition, p. 763.

still to consider the value of this treatment. In 172 cases where the serum was injected from the first to the third day there was a mortality of only 23·9 per cent.; in 188 cases where it was injected from the fourth to the seventh day the mortality was 28·1 per cent.; and in 155 cases where it was injected later than the seventh day, the mortality was but 39·3 per cent.

As is well known, Dr. Robb, of Belfast, in the recent epidemic gave the mortality in the cases treated without the serum as 85·2 per cent., whereas during exactly the same period of the epidemic the cases treated in hospital with the serum the mortality was 26·6 per cent.* Dunn, of Boston, reported a series of 40 consecutive cases with a mortality of 22·5 per cent. In young children the results are not so favourable: Flexner records 59 cases under two years of age with a mortality of 42·4 per cent., but even this figure compares well with Holt's series of 20 cases under one year who were treated without the serum, of which none recovered. In Flexner's tables of children under two, of 11 treated in the first three days of the disease only one died; of 11 treated before the seventh day only four died; whereas of 29 treated after seven days, twenty died—a mortality of 71·4 per cent. These figures demonstrate most clearly that in all forms of this disease, epidemic or sporadic, there is a much improved outlook when the use of this serum is available. When working at this subject in the past we were so impressed with these figures that we asked Dr. Flexner to give us the opportunity of using his method, and owing to his great kindness we have been supplied with ample quantities of the serum, which we have used at the Children's Infirmary and supplied to others who have had cases under their care. As a result of this, and with the permission of our colleagues at the Hospital, who have very kindly placed at our disposal the cases under their care and allowed us to treat them with the serum, we are in a position to publish the results of eighteen cases which we have carefully considered from every point of view, and the conclusions we have drawn therefrom.

The literature of this subject is now so voluminous and well known that we do not propose to deal with any of the interesting questions which it raises, but we will confine ourselves entirely to the serum with which this note deals. Although we have so far used only this serum, we have obtained small quantities of Ruppel's, but so far, as will be seen in the course of our note, no cases have arisen in which we are yet justified in giving up Flexner and Joblin's for this or any other form.

* 'Brit. Med. Journ.,' 1908, ii, p. 1341.

We need hardly state that in every case of meningitis or menin-gismus admitted to the Infirmary for Children, a lumbar puncture with the precautions we have previously mentioned is performed as soon as possible. As regards the safety of this, we may say that in the last eighteen months we have adopted this procedure on at least two hundred occasions, and not yet have we been able to observe any ill-effects which could be attributed to it. On the other hand, cases have arisen where we can unhesitatingly say that a correct diagnosis could not possibly be obtained by any other means. Four cases will illustrate the importance of this statement.

M. P—, aged 3 years, a well-nourished child, was admitted with irritability and left hemiplegia; the patient became drowsy but could be roused, and there was no head retraction. There was a right internal squint, no Kernig's sign, left plantar reflex extensor, and at the left base there were suspicious signs of lung consolidation.

The child had had a fall eight weeks previously, and had been ill for two weeks before admission. The onset, as described by the mother, was with convulsions, and there was no family or previous history of significance.

The temperature on admission was 97.8°F ., later rising to 102°F . A few hours after admission lumbar puncture was performed, when the fluid, which was not quite clear, came away under increased pressure; the albumin was increased, there was but a slight Fehling reduction, and the centrifugalised deposit showed a marked increase of polymorphonuclear leucocytes, of lymphocytes, and large vacuolated cells. The films showed diplococci which were Gram-negative, and a short rod-shaped bacillus which was not further investigated. Thirty cubic centimetres of Flexner's serum were therefore injected immediately, but the clinical symptoms led us to suspect the presence of a tuberculous lesion, and the further staining of the cob-web-like deposit, which later separated in the cerebro-spinal fluid by the method we have previously described, demonstrated the presence of tubercle bacilli. The child died forty-eight hours later, and at the post-mortem these observations were confirmed.

E. E—, aged 8 years, was admitted on the eighth day of her illness, having had marked pain in the head and back, and vomiting for the first three days with constipation. She had been delirious for three days before admission. During the period she was in hospital she had marked irritability with retracted abdomen, at first increased knee-jerks and Kernig's sign, and later double optic

neuritis. The temperature was irregular and varied from 99° F. to 101.4° F. at night. On admission a diagnosis of tuberculous meningitis was made, and the cerebro-spinal fluid was clear, showing polymorphonuclears and lymphocytes in about equal numbers. A few diplococci were found, and tubercle bacilli were demonstrated. Three days later lumbar puncture showed the fluid to be slightly turbid, and a few diplococci were again found in the films. On the sixth day the organism was obtained in pure culture, and proved to be Gram-negative. The patient died on the twelfth day after admission, and at the post-mortem there was general miliary tuberculosis, and, in addition, marked purulent exudate at the base of the brain and the upper portion of the cord.

In a similar case, J. F—, aged 10 months, tubercle bacilli were found and numerous diplococci demonstrated in the films but not grown. At the post-mortem similar appearances were found in the brain and spinal cord to those in another case—G. E—, aged 5 months, in whom the first examination of the cerebro-spinal fluid showed the typical appearances of meningococcic infection. The clinical symptoms gave us no indication of any other infection beyond the presence of a few rhonchi in the chest. In the fluid tubercle bacilli were not looked for, but at the post-mortem the base of the brain and the upper part of the cord were covered with thick green pus, spreading up both Sylvian fissures, in which the middle cerebral artery was thrombosed and surrounded by a dense, hard, purulent mass. Round the edge of this were numerous tubercles, which were also found on the vessels at the base after the removal of the purulent exudate. There were also caseating cervical, bronchial and mesenteric glands, and a few small tubercles on the surface of the spleen. These four cases are of extreme interest in that two of them were cases of tuberculous meningitis in children under one year of age. They also show, as has already been previously recorded by others, that the diplococcus may occur merely as a secondary infection to other forms, and demonstrate conclusively that a full bacteriological examination of the cerebro-spinal fluid is the one and only way by which a correct diagnosis can be arrived at.

In the other fourteen cases of our series the only organism thus found has been the *Diplococcus meningitidis*, and all of them have been both clinically and bacteriologically cases of cerebro-spinal meningitis. In all these cases the fluid obtained by the first puncture showed turbidity of varying degree; experience has shown, and our cases have corroborated this, that with such a fluid

the case is probably a meningococcic form, and therefore to save a second lumbar puncture the serum is used at once. So far we have always found with such a fluid that the diplococci are present both in films and culture, and on the rare occasion which may arise in which this is not the case, the one injection of the serum will not do any harm.

The serum, obtained by immunising a horse with many strains of the organism, is bactericidal and only slightly antitoxic, therefore it must be injected directly into the spinal canal, and subcutaneous injection has little, if any, effect. It is advisable therefore to use a needle when doing a lumbar puncture which accurately fits a syringe, which will hold 15 c.c., so that if turbid fluid is withdrawn all that is necessary is to warm the serum to body temperature and inject slowly into the canal after removing the fluid. As increased pressure is to be avoided it is always advisable to withdraw as much fluid as possible, and not to inject more serum than the amount of fluid removed: we usually find we can remove without difficulty 35 to 40 c.c., except when the case is in the stage of recovery, or there is marked involvement at the base of the brain by a large quantity of purulent exudate.

The fluid, as we have previously described, is turbid, contains albumin in increased quantity, reduces Fehling only slightly, and the films show polymorphonuclear leucocytes, vacuolated cells, and the organism, both intra- and extra-cellular. Cultures made by allowing the fluid to run directly from the puncture needle on to Nasgar medium rarely fail in the early stages to give a characteristic growth of the organism. Having thus arrived at a positive diagnosis the amount of serum to be used and the frequency of the dosage presents some difficulty—a difficulty which no doubt with increased experience will be remedied. The age of the patient, the symptomatology and the number of organisms present have all to be considered. Dunn, of Boston, advocates that in older children and adults four doses of 30 c.c. each should be given on successive days, and further quantities based upon the findings as observed from day to day. We have found that after the first or second injection the number of organisms is decidedly lessened, and from three to seven days after the first injection the fluid tends to become clearer, the polymorphonuclear cells lessened and replaced by lymphocytes; in some of the cases we have further noticed the organisms tend to become more intra-cellular. After about this period of time the fluid becomes clear, it no longer comes away under increased pressure, no organisms can be found and only lymphocytes of the

cellular elements; the organisms can no longer be cultured when still a few may be found in the films. The leucocytosis which is present with the disease under the influence of the serum soon disappears. These are the appearances we have noticed in the ordinary cases, but in the cases combined with tuberculous infection we have found that the fluid may be comparatively clear and yet contain diplococci; but even this is not constant, the fluid in one of these cases, at least, looking and behaving exactly like the unmixed form.

In the last four and a half months we have had the opportunity of considering fourteen cases; these have varied in age from three months to four years. Most of these would be considered clinically as belonging to the posterior-basic variety, but seeing that the organism obtained from them gave growths in every way similar to the older cases, and responded similarly to the serum as the recorded cases of epidemic form, we consider that this term, though historically of importance, is one which can now hardly be used as differentiating any particular form of the disease.

Space will not allow us to consider these cases in detail, and we will therefore speak of some of their most salient features and the effect of the serum. As seen from Flexner's statistics, it is obvious that an early recognition of the disease is the main factor in the prognosis. We have had only three early cases, the first that of J. J—, a male, aged 5 months, which was sent to the ward by our house-physician, Dr. Bernstein, whom we thank for his early recognition of the case, with a history of convulsions and vomiting on the previous afternoon, the only physical signs being rigidity of the legs in a flexed position and slight rigidity of the neck muscles. A lumbar puncture was done immediately, the fluid showing the characteristic signs. As a result of our previous experience and the age of the child, we decided to give him a small dose of 10 c.c., and not to repeat it with the frequency which has been advised in adults. The temperature, which was 101° F., became normal and remained so for thirty-six hours, then a slight rise occurred and a further dose of 7 c.c. was given the temperature returned to normal, and after the ninth day there were no signs of meningitis. He was extremely wasted, and owing to a cleft palate had to be spoon-fed. Some difficulty was found in overcoming these two conditions, but thanks to the unremitting care of the sister and nurses, the child, whom we expected to die from marasmus, eventually made a good recovery.

The dosage in young infants has not yet been arrived at, but as

the results of three or four successive cases, in which we gave 30 c.c. as an initial dose, and the total dosage up to 105 c.c., we are inclined to think that the smaller dosage less frequently repeated has given us better results. We have recently received a letter from Dr. Flexner confirming this view. This is again seen in the case of C. C—, a male, aged 3 months, who was admitted on the fourth day of the disease with typical symptoms and cerebro-spinal fluid. A dose of 10 c.c. was given on the day of admission, which was followed by a rapid improvement in the symptoms. This child, obtained so early, as a result of one small dose made an uninterrupted recovery, and in the first twelve days increased in weight from 7 lb. 7 oz. to 8 lb. 11 oz., since when he has made equally good progress to an eventual recovery.

The third case, M. L—, aged 4 years, was admitted to the Stanley Hospital under Dr. Owen, the day after a sudden fulminant onset, in a comatose condition, the limbs being limp, the conjunctivæ insensitive, and the reflexes abolished. There was no head retraction and no Kernig's sign, and great irritability. On the fourth day a lumbar puncture was performed, the diagnosis confirmed, and 25 c.c. of serum injected. The serum was repeated on the sixth, tenth, fourteenth, and nineteenth days up to a total of 130 c.c., the usual alterations in the fluid were observed, and the case ended in complete recovery. This case, therefore, had considerably more serum than the two previous ones, but two facts presented themselves to Dr. Owen and ourselves which justified the dosage, namely, the age of the child and the marked severity of the infection.

Naturally it is only within the first few days that any treatment can influence and retard the formation of the thick purulent exudate which is found at the base of the brain and along the cord in these cases. This is well illustrated in the case of J. McL—, aged 7½ months, to whom serum was given on the seventh day, and a total of 85 c.c. during the next four days. The child had to be nasally fed on the second day after admission, and remained in almost the same condition throughout, dying four days later. At the post-mortem there was the usual thick, purulent exudate over the base of the brain and cord. Here it was obvious that even by the seventh day the disease had made great progress, and treatment directed towards killing the organism was of little avail with such an amount of exudate. That the organism can be overcome even in such a case is shown by M. U—, aged 11 months, to whom the serum was first given on the fourteenth day. The symptoms, which were very severe, gradually improved, and the general condition three

weeks afterwards showed the same continued improvement. The child gained in weight, and a month after admission the cerebro-spinal fluid was fairly clear, the increase in lymphocytes was very marked, and very few diplococci could be found; moreover, cultures made on Nasgar were negative. Broncho-pneumonia supervened a week later, and the child died. There, again, at the base of the brain was found a purulent exudate, and the ventricles were much dilated. We think in this case that the marked improvement in condition, the gain in weight, and the change in the cerebro-spinal fluid show that the serum had neutralised the infective element of the disease, but the blocking at the base leading to the great dilatation of the ventricles was the mechanical result of the conditions occurring in the fourteen days before the serum was used. Had the broncho-pneumonia not arisen there is a possibility, if not a probability, that this case would have recovered, but had it done so there is little doubt that a hydrocephalus would have been present. These two cases to our mind emphasise what we have already mentioned, that if the serum continues to show the results it has shown, the question of prognosis both as regards life and the prevention of the pitiable after-conditions of these cases will depend mainly on their early diagnosis.

A comparison between vaccine and this treatment has been given us by the case of William C—, aged 10 months, who was treated in the hospital for five weeks with a vaccine, and showed at the end of that time no improvement, and was losing weight. The case, having been ill forty-seven days before serum was used, might have recovered without it, but even at this late period there was turbidity of the fluid, the cellular elements were found in excess, and diplococci were seen in large numbers. After four doses of the serum in a period of ten days the fluid became clear, and only a very slight deposit could be obtained on centrifugalisation, consisting almost entirely of lymphocytes, and no organisms could be found. Whatever the further progress of this case might have been, there is no question as to the influence of the serum upon the fluid, and the child is now perfectly well.

The others of our cases naturally varied in their manifestations, both clinical and cytological, but we may summarise them briefly, recognising that the numbers with which we are dealing are too small for us to dogmatise upon. Excluding the four cases of tuberculous meningitis with secondary meningococcic infection, our fourteen cases varied in age from three months to four years. Twelve of these fourteen were under one year, and therefore in that period

which Flexner's statistics show to be the most fatal, but in spite of this, of the fourteen cases there were seven recoveries in our series, five of which were in children under one year. We have already called attention to the only three cases which were obtained in the first few days of illness, all of which recovered, of which two were infants of only three and five months respectively. In the other cases the serum was injected from the seventh to as late as the fifty-eighth day, and therefore in some of them it is possible they might have recovered without this treatment, but even in these we have shown that the serum had a very definite influence upon the causative organism and upon the cytology of the fluid. The total amount of serum we have used in each case varied from 10 c.c. to 130 c.c., and the number of injections from one to five. As a result of these observations we wish to state that in our opinion the use of this serum in cases of cerebro-spinal meningitis which are diagnosed early promises extremely favourable results, and is worthy of the consideration of those who have to deal with this condition. Even in cases which are not diagnosed so early the serum undoubtedly favours the prognosis, and it or frequent lumbar puncture, or both combined, have in our opinion a good deal to do with the prevention of the after-conditions. Since our last communication we have had the opportunity of showing cases at the clinical section of the Medical Institution, in which repeated lumbar punctures have been performed. In these and in none of the seven recovered cases which we mention in this note is there any evidence of hydrocephalus, of mental impairment, or any of the other disabilities following this disease.

We therefore venture to think that though the numbers are small, these cases, occurring consecutively, justify us in the belief that these methods are of value both as curative agents and also as preventing the painful sequelæ which those working in children's diseases have seen with such frequency in the past as to make them on occasion regret that a recovery had resulted.

Before leaving this subject we should like to call attention to one point which we find constantly occurring in the diagnosis of these conditions, and that is the importance of examining the urine for acid and intestinal intoxications, which at times give rise to symptoms closely simulating them. The routine examination of the urine for di-acetic acid before performing a lumbar puncture is, to our mind, worthy of note.

We have again to thank Dr. Flexner for supplying us so generously with serum and for much valuable information with

regard to its use, and our colleagues at the Children's Infirmary, and to Drs. Warrington, Owen and Lepage for permission to use their cases for the purpose of this note. We have also to thank Dr. T. J. Williams for his assistance in the pathological work.

IRREGULAR UTERINE HÆMORRHAGE IN A YOUNG GIRL.

By GEORGE GIBB, M.A., M.B., C.M.,

Junior Physician, Royal Sick Children's Hospital, Aberdeen.

PROFUSE uterine hæmorrhage before the advent of regular menstruation is fortunately rare. When it does occur it may prove very serious, or even fatal. The following case is the only very severe case I have met with during the last twenty years :

D. C—, aged 14 years, a rosy-cheeked healthy girl, rather undersized and childish in appearance, with no history of hæmophilia, and with breasts fairly well developed, commenced to menstruate for the first time on March the 24th, 1909. On the first day she required to use six diapers. The flow kept steadily increasing. She at first concealed the occurrence from her mother, but soon was unable to stand and had to take to bed.

On March the 26th her mother stated that she passed about half-a-dozen large clots of blood, in addition to much fluid blood ; in a day's time losing more than she herself was in the habit of losing over her whole period.

On March the 27th I was called to attend. On this day she had lost ten large clots, moulded to the shape of the vagina, besides a large amount of fluid blood. She was very weak, and intensely anæmic, the gums being white and waxy, and the pulse-rate 150. She was unable to move in bed without feeling faint, was restless, and kept sighing. Ergot was administered by the mouth, but was promptly rejected. Food was still retained, however. Chloroform was administered, and the vagina plugged with strips of gauze wrung out of vinegar. The vagina was patulous ; the body of the uterus felt very small bimanually ; there was no cervix, there simply being a small os, with a slightly raised edge round it on the roof of the vaginal wall, as far up as the examining finger could conveniently reach.

March the 28th.—Hæmorrhage has been in the main controlled during the night by the plugging, micturition, however, bringing it

to a certain extent through or past the plugs. Since yesterday she has not been able to retain food of any kind owing to sickness. The temperature in the evening of this day was 100° F., and as she began to complain of discomfort in the lower part of the abdomen the plugs were withdrawn, the vagina douched out with biniodide, and plugging with sterile gauze was renewed under light chloroforming.

March the 29th.—The patient still kept no nourishment in the early part of the day. She was very faint and pallid. The hæmorrhage, however, was much less; pulse-rate 135. Ergotinine citrate $\frac{1}{16}$ gr. was injected into the buttock, and a normal saline injection administered by the bowel. The plugging was renewed under chloroform after an antiseptic douche had been administered. In the later part of the day a little liquid nourishment was retained.

March the 30th.—The patient had some sleep during the night. The pulse-rate is down to 126. Nourishment is being kept in small quantities. No hæmorrhage is visible.

March the 31st.—The plugs were finally removed under chloroform, and the vagina douched with biniodide of mercury lotion. The patient is making a good recovery.

June the 1st.—The patient now is in excellent health and has not again menstruated.

The necessity for the frequent use of chloroform during the manipulations was, in presence of the intense anæmia, somewhat unfortunate, as it tended to accentuate the sickness. The tender age of the patient, however, rendered an anæsthetic essential. As regards the particular anæsthetic used, a large experience in the administration of chloroform in a sick children's hospital has produced in me the conviction that it may be given to children, even in very weakly conditions, with a high degree of safety, provided it is very lightly administered. Whatever may hold for adults, the danger in the case of children I have almost always found to be that of overwhelming with too large a dose.

NOTES ON INTUSSUSCEPTION.

By CHARLES P. B. CLUBBEE,

*Consulting Surgeon to the Royal Prince Alfred Hospital, Sydney ;
Senior Hon. Surgeon to the Royal Alexandra Hospital
for Children, Sydney.*

WE now meet with cases of intussusception more frequently than we did a few years ago, and with this increase in the number of cases it is gratifying to find that there is great decrease in the mortality.

At the Royal Alexandra Hospital for Children, Sydney, during 1908 thirty-three cases of intussusception were admitted, and there were only two deaths.

During the last twelve months I personally have had twenty-six consecutive cases of intussusception under my care without a death. In twenty-five cases the abdomen was opened. In one the intussusception was reduced by an injection while under an anæsthetic.

To judge by the reports that appear in the journals, the results obtained here are better than those obtained in many other places. This must be largely due to the fact that we get the children in the early stages of the obstruction.

In my last series of fifty cases (excluding two of the chronic type, said to have been ill a week) the longest time from the onset of symptoms to the time of operation was fifty-three hours and the shortest was two hours—average seventeen hours.

We seem to have educated our medical community in this matter, and convinced them of the extreme importance of never missing a case of intussusception at the first visit. The surgeon is entirely dependent upon the general practitioner for the stage at which the case reaches the hospital, and if in any given locality the majority of intussusceptions are sent in late, then, through no fault of the surgeon, the mortality will continue to be high.

Dr. A. N. M'Gregor (1) says: "The time has come when intussusception must be regarded as a condition having definite symptoms and signs, capable of being diagnosed in the early stages, and requiring surgical treatment at the earliest possible moment. The pathologist has always been interested, and has carefully mounted his specimens and given them a prominent place in his museum. The surgeon has keenly treated such cases as were sent to him, and has exhibited his successes with pardonable pride, for the material was in most cases unpromising. The general practitioner should be

as keen and alert as either of these. The responsibility of early recognition rests with him, and as the element of time is probably the most important factor in the determination of success or failure, that trust is no light burden."

But so long as the writers in the various text-books, under the head of "symptoms," continue to describe the condition of the child as it would appear thirty-six or forty-eight instead of six hours after the onset of the invagination, so long will inexperienced men have a difficulty in making an early diagnosis. In their student days they may have heard a clinical lecture on this subject, but in all probability most of the time was devoted to ætiology, anatomy, pathology, and very little, if anything, was said that would in any way aid them in making an early diagnosis. How can we be surprised that men so taught should expect to find every case of intussusception in an extremely serious condition. So when the case is brought to them, the story told by the mother, plain though it be, does not put them on their guard. They are deceived by the appearance of the baby; they cannot believe that a child with apparently so little the matter with it can be suffering from intussusception. The child is prescribed for and sent home. The diagnosis is made some twenty-four hours later, when all the "classical" symptoms are present.

The treatment of intussusception is laparotomy. But even at the present day when writing on this subject men continue to compare the treatment by irrigation with the treatment by laparotomy. Nothing can be more absurd. "The measures," as Jonathan Hutchinson remarks, "are not competitive, but one is supplementary to the other."

Up till quite recently I was in the habit of using an injection as a preliminary step in every case of intussusception, the child being under the anæsthetic on the table, with everything ready for the operation. In only 16 cases out of 160 was reduction effected by this means. My reasons for using injections were these: In a certain small proportion complete reduction might be effected, which meant a good deal in the days when the mortality was high. Then the injection nearly always reduced the mass to a considerable extent and thus lessened the subsequent manipulation. Recently I have altered my method, by omitting the injection and proceeding at once to the abdominal section. The mortality is now so low, and manipulation of the intestines carefully carried out is not harmful, that it seems hardly worth while to waste time on a procedure from which so little benefit can be derived.

Dr. Henry Dunbar (2), in his very able paper, gives many sound reasons against the employment of injections at any stage. I think the time has come when injections, even as a preliminary step, should be abolished in hospitals, or in any place where skilled surgical aid is at hand, and should be used only in out-of-the-way districts or places where for some reason or other it is impossible to operate.

The incision should be in the middle line when the mass is in the middle or to the left side of the abdomen, and through or just at the outer border of the right rectus in those cases when it is on that side of the abdomen. I now make my incisions much larger than I did formerly when in the middle line, the umbilicus being the centre of the incision. The advantages are many, and the results show that there is no additional risk. It is often very hard to decide how much pressure should be put on, and how long the squeezing process should be continued in a case that is difficult to unfold. A case that at one time appears hopeless may give way under continued pressure, and even with the peritoneum torn in several places the child may recover; therefore we must not be too ready to stop directly we meet obstruction. But the time comes when it is obvious that reduction cannot be effected, and that even if it is, resection must take place because of the damaged, probably gangrenous, condition of the gut. In these cases the shock is always very considerable and must be taken into account. If too much time has been spent on vain attempts at reduction, the child will be in a very poor condition to stand a resection should it be necessary.

The following case is a good illustration of this condition. After the intussusception had been reduced with somewhat prolonged pressure it was found to be gangrenous. At this stage the shock was profound and it was evident that the operation must be terminated quickly; I therefore resected and put in two Paul's tubes. Hector H—, aged 6 months, admitted to Children's Hospital on April the 28th, 1908, thirty hours after onset of symptoms. Ill since early yesterday morning, 12.30 a.m. Cried suddenly, vomited soon after. Given oil; passed two motions very offensive. Blood passed 10 p.m., twenty-one hours after onset of symptoms. Given hypodermic injection of morphia gr. $\frac{1}{30}$. Large tumour felt on left side of abdomen. Enema given without altering position of tumour. Abdomen opened in middle line. Intussusception found in sigmoid flexure; the last part reduced with great difficulty by manipulation, peritoneum tearing in several

places. When nearly reduced cæcum was found to be gangrenous and stinking. The cæcum and several inches of ascending colon were then removed; Paul's tubes were fixed in ileum and colon. The child suffered much from shock. For the first twenty-four hours, as it vomited the breast-milk, it was fed through the Paul's tube with small quantities of Benger's food. The tubes came out on the second day. The child was kept on the breast, and gradually began to pick up. For some weeks there was considerable difficulty with the wound and surrounding skin, which was much irritated. The skin recovered itself and the wound healed up with the exception of the two small openings into the bowel. On July the 15th, 1908, the child being in good condition, I was able without any difficulty to make an end-to-end anastomosis. I inserted small oblong pieces of sponge into the openings and kept them in until everything was free and ready for the anastomosis. The abdomen was closed with through-and-through silkworm-gut sutures. Beyond vomiting occasionally for a few days the child had no bad symptoms. It quickly picked up, got fat, and was sent home well in a few weeks.

Mr. Arthur Edmunds (3) has suggested a most ingenious method of dealing with cases when it is necessary to resect, by means of a specially constructed Paul's tube, made with a groove to fit over his enterectomy forceps. The great advantage of this method is that it obviates the skin irritation that always follows the use of the ordinary Paul's tubes. The chief objection to my mind, from a practical point of view, to the use of this tube would be the great difficulty of arranging the dressing to prevent the tubes being dragged out. This difficulty Mr. Edmunds recognises when describing the best way to apply the dressings.

Dr. Henry Dunbar (4), in dealing with the varieties of intussusception, says that the ileocæcal comprise the very large majority of the total number of cases, and quotes Leichtenstern, who puts ileocæcal at 44 per cent., but says that he thinks Holt is probably more correct when he places the ileocæcal variety at 74 per cent.

In this matter he is in error. Old statistics cannot be relied upon, because formerly all intussusceptions involving the cæcum were called ileocæcal, and no attempt was made to differentiate the various forms. Those commencing at the caput cæci, which we now call cæco-ileocæcal or colic-ileocæcal, were not distinguished from those commencing at the valve, and both were called ileocæcal.

In the 157 cases I have operated upon so far:

50	were cæco-ileocæcal	or 32·05 per cent.
46	„ ileocæcal	„ 29·4 „
28	„ enteric-ileocæcal (double)	„ 17·8 „
15	„ ileocolic	„ 9·7 „
14	„ ileocolic-ileocæcal (double)	„ 8·9 „
3	„ colic	„ 1·9 „
1	„ enteric	„ 0·6 „

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This table shows that the double variety (excluding the cæco-ileocæcal which some people call double) is common, and may be expected in 27 per cent. of the cases.

Intussusception of the appendix is not often met with. I have only seen one case, and that was under the care of my colleague, Dr. E. H. Binney (5). The child was aged 2 years; it had occasional attacks of pain and vomiting; a tumour could be felt from time to time, but there was no intestinal obstruction. At the operation the mass was found in the transverse colon and was easily reduced to the cæcum. The walls of the cæcum were swollen and would not unfold. As the mass could not be reduced Dr. Binney resected the ileocæcal region, and made an end-to-end anastomosis. When the excised cæcum was examined it was found to contain an inverted appendix, and this had evidently caused the intussusception of the colon. The child made an uneventful recovery.

Dr. P. L. Hipsley (6) in his paper on "The Ætiology of Intussusception," suggests that hypertrophy of the lymphoid tissue at the lower end of the ileum may often be the starting-point of the enteric variety of intussusception. I think that this is probably true, because we know that when an intussusception begins in the ileum a few inches from the cæcum, the starting-point is always at the side of the bowel and opposite to the mesentery, and this is the situation where this hypertrophied lymphoid tissue is found. This point in the ætiology is worth noting, since all the double varieties start in the ileum, and they form 27 per cent. of the total number of cases.

I have now had under my care 173 cases of intussusception, 157 laparotomies, 16 reduced by injection. Of those operated upon, first 50, 25 died—mortality 50 per cent.; second 50, 12 died—mortality 25 per cent.; third 50, 4 died—mortality 8 per cent.; last 7, no deaths.

REFERENCES.

- (1) 'Scot. Med. and Surg. Journ.,' August, 1906.
- (2) *Ibid.*, August, 1906.
- (3) 'Practitioner,' 1908, vol. i, p. 367.
- (4) 'Scot. Med. and Surg. Journ.,' August, 1906.
- (5) 'Austral. Med. Gaz.,' July, 1908.
- (6) *Ibid.*, July, 1907.

Philadelphia Pediatric Society.

REGULAR MEETING, May the 11th, 1909, J. CLAXTON GITTINGS, M.D.,
President.

Polyarthritis following Tonsillitis.—Dr. ARTHUR NEWLIN showed a pale boy, aged 11 years, who came to the Orthopædic Hospital on account of pain and stiffness in his knee-joints. Dr. M. J. Lewis has kindly permitted Dr. Newlin to show him. Family history is negative. Except for scarlatina at three years, he has always been well until a slight cold about a year ago, at which time the cardiac murmur was first noted. In December, 1908, he had an attack of tonsillitis lasting one week. He was apparently well for two weeks, then developed joint pains, first in the lumbar spine, then in the knees, which were swollen, stiff, and painful, without tenderness, heat, or redness. He complained not so much of pain as of inability to get about. The back became better, but the knees showed little improvement. His anæmia is more apparent than real: Hæmoglobin, 80 per cent.; erythrocytes, 4,600,000; and leucocytes, 8000. The tonsils are enlarged, as are submaxillary and inguinal glands; other superficial lymphatics are not enlarged, nor is the spleen palpable. Cardiac dulness is increased, and there is a blowing systolic murmur at the apex transmitted into the axilla. The knees are swollen and painful, with no tenderness or redness of the joints. Decided swelling of the metacarpo-phalangeal joints of both index fingers, fusiform and painless, is noted. He had noticed nothing abnormal about his hands, except that they were weak. There was distinct atrophy of the interossei muscles of both hands. An X-ray shows no change in the bones. It seems evident that the polyarthritis was caused by an infection through the tonsils.

Still's Disease.—Dr. NEWLIN also showed a boy, aged 15 years, native of the hilly country of Huntingdon County, Pennsylvania. His mother and one brother have goitres. He has always lived in a dry house. He had had attacks of rheumatic (?) pains in his legs, but was never laid up until August, 1907, when his joints swelled, the left ankle first becoming painful, red, and swollen, and the joint stiff. Two months later the right elbow was affected. At present, twenty-one months after onset, both ankles, both knees, the right elbow, both wrists, and all fingers are affected. He is in the Pennsylvania Hospital. Dr. C. D. Hart has allowed Dr. Newlin to show him. He is pale and emaciated, unable to stand on account of the swelling and stiffness of his knees and ankle-joints. The submaxillary, epitrochlear, and inguinal glands are enlarged, the epitrochlear feeling as large as large

peas. The spleen is palpable two fingers' breadth below the costal margin. The joints of both ankles and wrists are ankylosed, as is the right elbow; the knees are partially so. The joints of the first and second phalanges of both hands are stiff, and show a fusiform swelling; the other joints affected are likewise swollen and puffy. There is no redness, pain, or tenderness in any joint, but some bony grating at the wrist articulations. Arms and legs are semiflexed, and efforts at extension are painful. The hips, shoulders, and right elbow are unaffected, and the articulations of the jaws have also escaped. Radiographs show a porosity or rarefaction of the bones in the articulations involved, but there is no grooving or lipping. Blood-count shows: Hæmoglobin, 76 per cent.; erythrocytes, 5,000,000; and leucocytes, 10,500. Of the latter, 65 per cent. are polynuclear, 25 per cent. mononuclear, 7 per cent. transitional, 1.5 per cent. eosinophiles, and 1.5 per cent. unidentified. Both Moro and Wasserman tests were negative. An epitrochlear gland has been removed for examination.

Dr. J. T. RUGH mentioned that he had seen a number of similar cases, intensely interesting from the standpoint of ætiology. Both of these cases illustrate the newer ideas of the toxic character of arthropathies. The first case had a tonsillar infection; the second resembles four others which he had seen in ten years, in all of which there was a primary tubercular infection in the epiphysis of one of the long bones in the large joints. This disappeared and a polyarthritis developed. In his last case all the joints of the body are involved and the condition resembles arthritis deformans. In the treatment of these cases he had followed out a series of cases on fluid extract of bryonia and grindelia robusta, running them up alternately to the point of tolerance. In only one case, an old man over seventy, did improvement follow. His best results have followed pure tincture of iodine, given in drop doses an hour before or two hours after meals, also run up to the point of tolerance. In some cases of polyarthritis and arthritis deformans he has given as much as ten to fourteen drops of tincture of iodine.

Dr. NEWLIN said that in the first case salicylates were first tried without benefit; but there has been a steady improvement under syrup of the iodide of iron, together with the ichthyol externally. In the second case iron is given internally and the affected joints are baked. There has been little change, but the patient has been made more comfortable.

Leukæmia.—Dr. J. C. GITTINGS showed a boy, aged 8 years, who was admitted with a history of weakness, anorexia and headache for four months. Blood examination showed high-grade anæmia, 6500 leucocytes, but 24 per cent. myelocytes in a differential count. The spleen and liver were enlarged. Frequent subsequent blood-counts showed a gradual rise in the leucocytes to 40,000 and in the myelocytes to 40 per cent., followed by a gradual fall to normal within four weeks and a steady rise in the hæmoglobin and red cells coincident with marked improvement in the general health and disappearance of all symptoms. As the blood picture permitted a diagnosis only of leukæmia the further course of the case will prove of great interest. The boy also showed slight loss of power with increased reflexes and clonus in the right arm and leg. The explanation of this is not clear.

Tuberculosis and Syphilis.—Dr. GITTINGS also showed a girl, aged 1 year, admitted to the University Hospital for paralysis of the left sixth and seventh cranial nerves and weakness with increased reflexes in the right arm

and leg. The apex of the right lung showed consolidation and râles, and the sixth examination of the sputum showed tubercle bacilli. The von Pirquet tests were negative, while the Wasserman reaction was distinctly positive. Lumbar puncture failed to obtain more than three or four drops of fluid. As the paralysis had appeared suddenly and had improved slightly on anti-syphilitic treatment, a diagnosis had been made of tuberculosis of the lung and cerebral syphilis.

Dr. ALFRED HAND, jun., asked whether the first case could not be syphilitic. The boy does not look like a case of hereditary syphilis, but perhaps the presence of syphilis, as in a case reported by A. O. J. Kelly, has kept the ordinary symptoms of leukæmia in abeyance. He believes that leukæmia may occur without leucocytosis. The second case he also considered syphilitic rather than tubercular. The eye findings could, of course, be due to either, but are more likely syphilitic.

Dr. GITTINGS said that syphilis in the case of the boy had been considered, but in the absence of any other luetic symptoms and because of the marked improvement of the blood findings on arsenic, the therapeutic test had not seemed justifiable. Opportunity for the Wasserman test had only recently become available, but would be employed.

Decapsulation of Both Kidneys for Acute Nephritis.—Dr. E. B. HODGE showed a girl, aged 5 years, admitted to the Children's Hospital in June, 1907. Œdema had been noticed ten days before, first under the eyes, then in the feet, legs, abdomen, arms, and hands. Ascites was present, and the urine, six to ten ounces daily, contained albumin, hyaline and granular casts. On medical treatment she was worse at the end of eight weeks. On August the 12th, 1907, decapsulation of both kidneys was done. Both were enlarged, the right more so, and deeply congested. It was impossible to deliver the kidneys on account of the depth of the incisions through the cedematous tissues of the back. Incisions were closed in layers by a few sutures, loosely tied, without drainage. In spite of this the stitches cut and the wounds opened wide, with subsequent infection and prolonged suppuration. Operation took thirty minutes. The patient was very ill for some time. In three days the urine reached fifteen ounces daily, and in two weeks averaged twenty to twenty-five ounces. Œdema was less in one week and decidedly less in two weeks. By the end of three weeks she was nothing but skin and bone. Her convalescence was further retarded by gonococcic vulvo-vaginitis. At the end of a month she was sent to the country, and in three months discharged with incisions healed. She has been perfectly well ever since, and a specimen of urine obtained within the week shows no albumin or casts. There is not a trace of œdema. Dr. Hodge showed her as a late result of double renal decapsulation for acute nephritis nearly two years ago. The two patients operated on by Dr. J. P. Hutchinson and shown by Dr. C. H. Weber in 1906 are both alive and well, but have albumin in the urine. These three are the only cases on whom this operation has been performed at the Children's Hospital.

Dr. GITTINGS said that it is extremely important to determine the exact value and applicability of Edebohls' operation so that every contribution to the subject is of great interest. The helpless attitude of the physician to so many of the nephritic cases is the strongest plea for the final decision on the operative treatment.

Dr. HODGE added that, while there had been three cases in the Children's Hospital with three recoveries, the mortality in a large series of cases must

be far greater. Nevertheless, the operation is to be recommended in suitable cases. In answer to Dr. Elmer's questions, Dr. Hodge said that the kidneys had been operated upon consecutively by one operator, not simultaneously by two operators. The shock and the anæsthesia both helped to diminish the amount of urine secreted immediately after operation.

Dr. LEFEOWITCH said that the child reported by Dr. E. E. Graham in 1906 is still alive and well.

Interesting Dermatological Cases.—Dr. C. J. HUNT, by invitation, reported the histories of two cases of a somewhat similar bullous eruption, appearing at the tips of the fingers in a boy aged 7 years and a girl aged 10 years. Both children had a history of urticaria.

Dr. F. C. KNOWLES suggested that one of the cases resembled somewhat the history obtained in a rare disease, epidermolysis bullosa, but if the patient had had that condition other traumatic lesions would have appeared before the present attack or subsequent to it. The traumatic element described probably had nothing to do with the appearance of the outbreak. The cases would suggest several diseases, at times bullous, impetigo contagiosa, urticaria, erythema multiforme or even beginning cheiropompholyx. With the limited distribution and unusual history the classification is extremely difficult.

Société de Pédiatrie, Paris.

April the 20th, 1909.

Sudden Death in a Syphilitic Infant: Lesions of Glands.—MM. TRIBOULET and RIBADEAU-DUMAS related the case of an infant, the subject of congenital syphilis, having recent papular eruption on the face and lower extremities, and who died suddenly. A clinical examination made a short time previously gave no indications which would have foreseen such an event. Autopsy: marked changes in the thyroid, para-thyroids, hypophyseal glands and suprarenals, consisting of specific lesions with hæmorrhagic infarcts. Heart, lungs, and brain seemed normal.

Congenital Laryngeal Stridor.—M. NATTAN reported the case of a child who had laryngeal stridor the day after birth, increased by dorsal decubitus and lessened by lateral decubitus. There were neither adenoids nor bronchio-tracheal adenopathy to account for this marked symptom. Hypertrophied thymus was suggested. The case was interesting, inasmuch that at the age of six weeks the stridor suddenly disappeared.

M. VARIOT was inclined to account for similar conditions by nervous lesions, and quoted the case of an infant in his clinic in whom the stridor disappeared equally suddenly, and who had paralysis of one vocal cord, which had been observed by a laryngologist. In true laryngeal stridor, due to malformation of the ary-epiglottic folds, the inspiratory stridor disappears gradually, and only ceases definitely after the end of the first or second year, and sometimes even later.

A Case of Choreic Psychosis.—M. NATTAN related the case of a young girl, aged 7½ years, who, during an attack of chorea, was seized with complete psychic depression, without stupor. The mental troubles persisted a long time after the chorea had disappeared. Intelligence gradually returned, and the child eventually became perfectly normal.

Pulmonary Hydatid Cyst.—M. RAOUL LABBÉ read notes of the case of a child, aged 8 years, seen for repeated febrile attacks with diffuse bronchitis. Influenza was suggested as a cause, but gradually fœtor of the breath supervened, and an area of dulness became apparent over the left lung, and a diagnosis of pleuro-pneumonia was made. By radioscopy an opacity was seen over the upper third of the left lung. Exploratory puncture drew off non-characteristic fluid. The child was then seized with severe pain in the side, and immediately afterwards vomited a considerable quantity of fetid purulent fluid, in which hydatid hooklets were found. After the vomiting signs indicative of a cavity made their appearance. Cure resulted.

M. NETTER had noticed suffocative accidents happen after exploratory puncture; the association of these cysts with pneumonia was very frequent.

M. HUTINEL had observed the case of a girl, aged 10 years, suddenly seized with hæmoptysis, with most rôles and signs of a cavity. In view of the rarity of tubercular lesions of this kind at that age, he examined the expectoration and found hydatid membranes. Cure resulted. In another case the onset resembled a pneumonia of the left side; the child died, and at the autopsy two suppurating hydatid cysts were found, one on the right and the other on the left side.

Cerebro-Spinal Meningitis treated by Anti-meningococcic Serum.—M. TERRIEN showed a child who was attacked. Lumbar puncture performed by aspiration drew off a purulent fluid. The condition improved, and after injection of 15 c.c. of serum cure resulted.

M. NETTER advised, when aspiration was attended with any difficulty, to blow some sterile air into the needle, or to inject some artificial serum into the spinal canal. He had treated nine infants under one year, with four recoveries. From one to two years the percentage of deaths was 40 per cent.; after two years there were 70 per cent. of cures. He was in favour of the method practised in Germany, which consisted in injecting for three consecutive days doses of serum varying from 20 to 30 c.c., without regard to the temperature, which is notably irregular.

M. COMBY did not advise injecting such large doses so frequently. He had obtained cures after one or two injections of 10 c.c.

M. HUTINEL had five cases, with four recoveries, and noticed a rapid improvement from the use of serum, the cerebro-spinal fluid clearing rapidly. As to subsequent rises of temperature, he regarded them as due to the serum. In certain cases a tubercular meningitis might co-exist with another microbic variety, giving a purulent appearance to the fluid. In these circumstances a lymphocytosis is found.

VINCENT DICKINSON.

Abstracts from Current Literature.

Medicine.

Male characteristics developing in a girl (*Med. Press,* January 20, 1909).—**Thummim**, at the Medizinische Gesellschaft of Berlin, reported the case of a girl, aged 17 years, who first menstruated at the age of fifteen, but not again. At that period a luxuriant beard began to develop; hair also grew on the breast and on the linea alba, and the voice became deeper, but the figure remained feminine. The external genitals were those of a female, the uterus was normally developed, and the ovaries could be plainly felt under an anæsthetic as small hard substances. The girl died from sepsis commencing in a panaritium. The autopsy showed well-developed mammæ, female genitals and a feminine pelvis. The ovaries were small and hard without any trace of ovulation. The right supra-renal body contained two brown nodules, and the left was converted into a tumour as large as a man's fist, which proved to be a struma supra-renal. The thyroid was enlarged, but the hypophyses were not. The case was, therefore, one of atrophy of the germ glands with hypertrophy of those of the vascular system.

T. R. WHIPHAM.

Neuro-fibromatosis (*Med. Press,* December 23 and 30, 1908).—**Exner**, at the Gesellschaft der Aertze of Vienna, showed a boy, aged 7 years, who from infancy had a large swelling on the lower jaw, which had gradually increased in size till it now reached to the lower orbit and behind the ear. Below the left ramus of the lower jaw a stringy tumour could be felt, extending forwards to the right ramus, upwards and backwards as stated, and downwards as far as the clavicle. Clinically, the tumour was diagnosed as a fibroma, but from its origin and pigmentation, as well as from its peculiar form, it was finally decided that it belonged to that class of tumours which Recklinghausen termed "neuro-fibromatosis." At the same Society **Haberer** showed a similar case in a female, aged 20 years. From the left side of the face there hung a small bag-like tumour, which, being attached to the angle of the mouth, drew it backwards, giving the patient an extraordinary appearance. A second tumour was situated on the left upper eyelid, which prevented the movement of the eye and had damaged the bulb. Both tumours were painless, and according to the history had been observed at birth, but during life had gradually increased in size. Covered with hair another good-sized tumour was found over the parietal and temporal bones, with an indented or crateriform surface. On closer inspection a defect about the size of a gulden was found between the two bones. The whole of the lower jaw on the left side as well as the soft palate were greatly thickened. The pigmentation of the tumours was diagnostic of the disease.

T. R. WHIPHAM.

Tremor of childhood (*Med. Press,* December 23, 1908).—**Zappert**, at the same Society, exhibited a child, aged 2 years, who had just recovered from apical pneumonia in the right lung. About eight days after the pneumonia had commenced tremors began in the left extremities, there being no fever or other abnormal phenomena to account for this unusual invasion. After continuing for three weeks the symptoms began to disappear, but even now there were remnants of this morbid condition to be observed. The

author related the histories of a few other cases, and thought that these tremors were the initial symptom and guiding index of tubercular meningitis or tubercle in the brain, or the prodroma of encephalitis. They must be distinguished from the trembling and shaking of infants, which is known by the term "acute cerebral tremor of early childhood," and is not so important.

T. R. WHIPHAM.

Paralysis of the right facial nerve ('*Med. Press*, December 23, 1908).—**Friedjung**, at the same meeting, demonstrated a total paralysis of the right facial nerve in a child, aged 7 months. The paralysis appeared suddenly, accompanied by fever, which lasted for three days. The eyes and ears remained quite normal. Electrical tests gave distinct degenerative reaction. Friedjung thinks that this facial paralysis is another form of poliomyelitis anterior acuta, as it is ushered in with fever, and occurs with other epidemics like poliomyelitis. Escherlich, who had had similar cases, concurred in this opinion.

T. R. WHIPHAM.

Treatment of whooping-cough by chloroform inhalation ('*El Siglo Médico*, October 31, 1908).—**Arquellada** recommends that the dosage be regulated, 1 grm. being employed in the first minute and thenceforth $\frac{1}{2}$ grm. every two minutes. Complete anæsthesia is not required; there should be muscular relaxation without abolition of the corneal reflex. Ten minutes was the shortest time advisable for the administration; he finds that with longer periods of inhalations the cure is most rapid. He relates four cases of well-pronounced whooping-cough which had lasted from ten to fifteen days and were of unusual severity. One child had no further attacks of coughing after the inhalation; the second had four very slight attacks; the third, whose twenty-two fits of coughing a day were reduced to ten the day after, four on the third day, and in ten days to none; the fourth child, who was having thirty severe attacks before the inhalation, was completely cured in one sitting. He believes that the chloroform acts as a germicide, destroying the bacillus of Bardet found in the respiratory tract.

M. D. EDER.

Treatment of stammering with special relation to respiratory exercises ('*Inter. Col. Med. Journ.*, November 20, 1908).—**Leary** regards the primary cause of stammering as want of co-ordination between the breathing muscles and oral muscles. The general health should have careful attention, and from personal experience the writer believes segregation is essential in bad cases; public school should be prohibited. Respiratory exercises and vocalisation require about three hours a day; the exercises are at first directed towards controlling the breathing and are followed by deep breathing exercises. These must be slow and rhythmic. Diaphragm drill and exercises in vocalisation must be carefully carried out.

M. D. EDER.

Case of scarlatinal meningitis; recovery ('*Inter. Col. Med. Journ.*, December 20, 1908).—**Frost** saw the child five weeks after the fever with distinct symptoms of meningitis; Kernig's and Babinski's reflexes were obtained; there was optic neuritis and nystagmus. The mother had noticed a squint in second week of illness, and towards the end of the sixth week a condition of apathy set in followed by Cheyne-Stokes' respiration, which lasted four days. Two months later recovery was complete; strabismus, nystagmus, and optic neuritis had disappeared.

M. D. EDER.

A case of Henoch's purpura ('*The Austral. Med. Gaz.*,' December 21, 1908).—**Howle** saw a boy, aged 8 years, with severe abdominal pains, melæna, vomiting, and a purplish rash on legs, arms and chest; about umbilicus a distinct tumour was palpated. The pains were frequent and severe. Both elbows, knees, ankles, and left sacro-iliac joints were swollen, painful, and full of fluid. Blood condition was that of a secondary anæmia. Coagulation time 4.5; the control being 3.1. No great improvement having resulted, removal of post-nasals was performed by other advice. The patient died some fourteen days later. Howle queries the advisability of performing any such operation when the condition is so serious.

M. D. EDER.

Infantile mortality in puerperal eclampsia ('*La Semana Medica*,' December 17, 1908).—**Dominguez** gives the following statistics gathered from 6012 maternity cases treated at Rawson Hospital, Buenos Aires. There were 71 cases of eclampsia. Thirteen live infants were delivered naturally, and 24 by operation; 19 were born dead during spontaneous labour or during operation; 3 eclamptics were sent home cured before delivery. This gives a viability of 54 per cent. and mortality of 28 per cent., with 18 per cent. of cases in which the result to infant was unknown.

M. D. EDER.

Results of the care of infants' life ('*Ergebnisse der Säuglings für sorgl.*').—**Keller** publishes the first number of this journal. It deals with the prevention of infantile mortality from both the medical and social side. One section is devoted to questions which Keller regards as settled, another to unsettled questions, such as milk depôts, public control of the milk, etc. There is an extremely valuable bibliography of the literature of the last six years concerning infantile mortality and all the subjects that impinge on it.

M. D. EDER.

A case of astasia-abasia in a girl of ten ('*Gaz. des Hôp.*,' October 8, 1908, p. 1371).—**Babonneix** reports a case of this nature of several months' standing. The onset had been accompanied by much pain. As in so many cases of hysteria in children this one was monosymptomatic; no other sign of hysteria was present. The symptom was removed after two days' treatment by suggestion and isolation. The diagnosis is shortly discussed and abstracts of several previously recorded cases given.

ERNEST JONES (Toronto).

Congenital unilateral facial paralysis and bilateral external ophthalmoplegia ('*Gaz. des Hôp.*,' November 5, 1908, p. 1565).—**L. Babonneix** and **P. Harvier** describe a case of this nature in a female infant, aged 1 year. It was the only child in the family. The symptoms were noticed immediately after birth, which had been a normal one. These consisted in a complete peripheral facial palsy on the left side, and paralysis of the external rectus with both oblique muscles on both sides; in addition was found congenital atrophy of the choroid on both sides. A short bibliography and three photographs accompany the article.

ERNEST JONES (Toronto).

Family hæmophilia ('*Gaz. des Hôp.*,' October 27, 1908, p. 1471).—**P. Emile Weill** and **Boyé**, at a meeting of the Soc. Méd. des Hôp., gave an

account of a family of thirty-nine members, twelve of whom showed hæmophilic signs. There had been no fatal case in the family. Three members submitted to a blood examination. The same changes were found as occur in the female members of the common type of hæmophilic family, namely, slight delay in coagulability, imperfect contraction of the clot, etc. We have here, therefore, a benign type of hæmophilia that may be contrasted with the usual one.

ERNEST JONES (Toronto).

The reaction of the cerebro-spinal fluid in the course of some dermatoses of young infants (*Gaz. des Hôp.*, November 10, 1908, p. 1539).—**Ravault** has recently shown that the lymphocytosis so often found in the cerebro-spinal fluid of heredo-syphilitics varies in intensity with the extent of the skin lesion. **Marcel Ferraud** in this article shows that the same sign may also be found in non-syphilitics. He has examined the cerebro-spinal fluid at least once in each of 120 cases of infantile dermatosis, including 47 cases of lenticular erythema, 25 of vesicular and ulcerative erythema, 12 of prurigo, etc. He finds that lymphocytosis is not present in such cases, but that it may sometimes occur to a decided extent in cases of prurigo and of lenticular erythema—apparently non-syphilitic.

ERNEST JONES (Toronto).

The modern babies' dispensary (*Arch. of Pediat.*, 1908, p. 561).—**H. J. Gerstenberger** describes the infant milk stations in Europe, and gives an interesting account of the work done at the babies' dispensary in Cleveland.

J. D. ROLLESTON.

Measles in utero (*Boston Med. and Surg. Journ.*, vol. i, 1908, p. 436).—**Nathaniel R. Mason**.—A primigravida, aged 18 years, was admitted to hospital with typical measles. Eight days later she was delivered by forceps of a child who showed mottling of the skin over the whole body and branny desquamation of the chest and axillæ. Traces of desquamation persisted till twenty days after birth. Mason regarded the desquamation as evidence of measles and not as normal exfoliation of the skin, which does not begin till the fourth day and is finished in from ten to fourteen days. A review of the literature follows (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1907, p. 119).

J. D. ROLLESTON.

An exception to Colles's law (*Bull. de la Soc. franç. de Derm. et de Syph.*, 1907, p. 404).—**Gaucher**.—A woman, aged 23 years, was admitted to hospital with two typical hard chancres of the right breast, considerable axillary adenopathy and a roseola. She was accompanied by her child, aged nine months, who, in addition to a polymorphic eruption, presented mucous tubercles on the lips, which had developed one month before the mother's chancres. The disease in the child's case was undoubtedly congenital. At birth it had shown palmar and plantar pemphigus, and at six months had suffered from sero-purulent coryza and nasal obstruction. It had never been confided to a strange nurse. Under specific treatment considerable improvement occurred in both mother and child. **Fournier**, in the subsequent discussion, drew attention to the rarity of exceptions to Colles's law, and stated that he had never met with a case.

J. D. ROLLESTON.

Epidemic cerebro-spinal meningitis (*Arch. of Pediat.*, 1908, p. 721.)—**B. F. Royer**.—This paper, which contains a good clinical and patho-

logical account of the disease, is illustrated by temperature charts and interesting photographs of the skin lesions, and characteristic attitudes of the patients.

J. D. ROLLESTON.

Diabetes in infants and young children (*'Arch. of Pediat.,'* 1908, p. 655).—**H. B. Wilcox** thinks it probable that diabetes in the young frequently escapes detection. Whereas out of 2240 cases collected by Pavy, Prout and Meyer, only 11, or less than $\frac{1}{2}$ per cent., occurred in children, Reden and Saundby found 394 cases, or 13 per cent., in children under fifteen years. Direct or neurotic inheritance, trauma and acute infectious diseases have been regarded as important causes of diabetes in childhood. Wilcox thinks that the abuse of all kinds of sugar, common among children, is also of ætiological significance. There are no symptoms peculiar to juvenile diabetes. In most cases increased thirst is the first sign. The course of the disease is much shorter than in adults. The younger the child the shorter the duration. There is often a period during which there is a suspension of all active symptoms. The pathology is unsettled. The findings in children are the same as in adults. Treatment is unsatisfactory, and little help can be gained from drugs.

J. D. ROLLESTON.

Serum treatment of cerebro-spinal meningitis (*'Arch. of Pediat.,'* 1908, p. 747).—**S. Flexner** and **J. Jobling** have analysed 393 cases in America and Great Britain treated with Flexner's serum; 295 recovered, 98 died—a mortality of 25 per cent. The mortality among first to third day cases was 16.5 per cent., among fourth to seventh day cases 23.8 per cent., and among later cases 35 per cent.; 25 to 30 per cent. of the cases terminated by crisis. The duration of the active symptoms after injection of the serum was about eleven days. Very soon after injection the diplococci tended to diminish in number, to become wholly intra-cellular, and to lose their staining power and viability in cultures. The meningeal exudate rapidly lost its turbidity; coincidentally there was a rapid return of the leucocytes to normal in the circulating blood. In unfavourable cases the diplococci increased, the spinal exudate became more turbid, and leucocytosis rose. Relapses, which are not frequent under serum treatment, were accompanied by increased spinal and systemic leucocytosis and reappearance or increase of diplococci. The complications in serum-treated cases were few; the only persistent defect was deafness.

J. D. ROLLESTON.

Serum treatment of cerebro-spinal meningitis (*'Arch. of Pediat.,'* 1908, p. 754).—**F. S. Churchill**, from personal observations of eleven cases of meningitis, nine of which were due to meningococci, confirms the beneficial effects of Flexner's serum. Injection was rapidly followed by general improvement, by diminished leucocytosis, and a fall in the temperature. Subsequent lumbar punctures showed a clear fluid and a diminishing number of cells and organisms.

J. D. ROLLESTON.

Microsphyimia in infantile myxædema (*'La Clin. Infant.,'* December 15, 1908, No. 24, p. 741).—**G. Variot** showed this case at the Soc. Mèd. des Hôpit. (*'Bull.,'* December 4, 1908). The boy had been under observation for a year, since he was eight years old. His radial pulse was almost imperceptible and he had a tendency to cold extremities; the skin was rough on the anterior surface of the legs, on the buttocks and top of thighs, like a slight ichthyosis pilaris. He was pale, with a puffy face. As he was generally

somewhat swollen and of small intellectual development, he was regarded as a *microsphymic*. But on closer examination he was found to be very short for his age. Radioscopy showed marked delayed ossification in the phalanges and metacarpus, which corresponded to that of a normal infant of eighteen months, and is characteristic of infantile myxœdema. The diagnosis of microsphymia was then abandoned, and the action of thyroid medication confirmed this. Another myxœdematous child, aged 8 years, was also shown, with a very small pulse, which improved with thyroid treatment. His weight was that of a normal child of six years, and his height that of a child of four. Intellectual capacity was feeble and the face puffy, but there was no ichthyosis. The degree of development of his epiphyses corresponded to that of an infant of fifteen months. Dr. Variot alluded to the paper on microsphymia by Richet and Saint-Giron, who noted that in the symptomatology of this disease ichthyosis was much less frequent than mental debility (*Rev. de Méd.*, November 10, 1908, p. 999). He asked whether there was a direct relationship between myxœdema and microsphymia, and whether the arterial spasm was not dependent on the cerebral disorders, which were constant in infantile myxœdema. These authors had, however, reported an autopsy on the case of a Mongolian idiot in which microsphymia co-existed with deficiency of the thyroid gland. It was possible that besides this first variety of microsphymia of thyroid origin, other varieties existed in which syphilis, by its influence on the nervous centres, causes a disturbance in the function of the vaso-motors and an angiospasm, more or less permanent. The above-mentioned observers showed that microsphymia was found in various forms of idiocy, and it was impossible to attribute to the myxœdema all those cerebral disturbances which seemed to occupy the first place in microsphymia; on the other hand, the relationship of the cerebral functions with the vaso-motor system is well known to physiologists.

VINCENT DICKINSON.

Unusual cause of retention of urine in a child: oxaluria due to eating sorrel (*La Clin. Infant.*, December 1, 1908, No. 23, p. 710).—**G. Carrière** brought this case before the Soc. de Pédiât. The girl, aged 6 years, was brought for difficulty of micturition; 250 c.c. were passed with difficulty after twenty-eight minutes, and 150 c.c. were drawn off immediately after by catheter, showing that the bladder emptied itself incompletely. Local signs were absent; there was no disease of the nervous system. The acidity of the urine in terms of HCl. was 4 gr. .55—about four times the normal—and was due to oxaluria. The child had eaten a large quantity of uncooked sorrel.

VINCENT DICKINSON.

The relationship of ichthyosis with thyroid insufficiency (*La Clin. Infant.*, December 1, 1908, No. 23, p. 724).—**M. Vincent**, continuing his researches on the disorders produced by lesions of the thyroid body, communicated to the Soc. des Hôpit. two cases of ichthyosis, which tended to show that this cutaneous affection had some connection with thyroid abnormalities, either hereditary or acquired. One of these cases, particularly interesting, was that of a young adult in whom, at the age of 19 years, suddenly and simultaneously supervened a marked enlargement of the thyroid and an ichthyosis extending to all four limbs and trunk, but sparing the face, genital organs and articular folds. Both patients had, in addition to their keratodermia, a soft, painless thyroid enlargement. Without rejecting the idea of simple coincidence, it was impossible not to be struck by the sudden

and simultaneous thyroid and cutaneous lesions. One patient had also intellectual feebleness and stigmata of degeneration, which, according to Dubreuilh, is not unusual in ichthyosis, and can be explained by the thyroid lesion. It cannot be denied that thyroid lesions exercise a dystrophic influence on the integuments, especially in the infant (myxœdema), and even in the adult, for scleroderma may follow a thyroid atrophy consecutive on rheumatism. Congenital syphilis may also produce similar lesions of the skin through the intermediary of atrophy of certain glands, among which the thyroid holds an important place. On the other hand, acrocyanosis with coldness of the extremities, so frequent among young adults from the country, seems to have some connection with thyroid insufficiency, since it can be cured by thyroid administration. It is more than probable that certain morbid associations of widely different appearance, such as ichthyosis, with imbecility, scleroderma or myxœdema, and also with microsphymia, cyanosis of the extremities and feeble intellect (syndrome of Variot) have a common pathology, namely, an insufficiency of the thyroid gland, either congenital or acquired.

VINCENT DICKINSON.

Ballooning of the perinæum in young infants ('*La Clin. Infant.*,' November 15, 1908, No. 22, p. 685).—**Barbillion** describes this condition as a distension of the perinæum, frequently met with in young infants the subjects of congenital or acquired debility and due to a defect of the pelvic floor, the muscular tissue of which has become impaired. Normally the perino-anal region of young infants is hidden by the approximation of the buttocks, but the wasting of these parts and the thighs, accompanied by a tympanitic state of the abdomen, produces a projection of the perinæum, which is, moreover, resonant on percussion, whereas in healthy infants it is dull. It is a phenomenon of local myopragia, part of a condition of general amyosthenia, which itself is indicative of the feebleness which characterises all the tissues of the organism. It is a symptom in addition to other symptoms of debility which are observed in these little patients, either from premature birth or from long-continued disorders of nutrition. This symptom is the more marked in proportion to the organic deterioration of the child, and tends to disappear *pari passu* with restoration of strength and plumpness.

VINCENT DICKINSON.

An unusual case of infantile paralysis ('*Journ. de Med. de Bordeaux*,' September, 1908).—**Carles** and **Desqueyroux** report the case of a boy, aged $7\frac{1}{2}$ years, in whom after five days' fever generalised paralysis was found affecting all the limbs, the head, neck, and trunk; there was also retention of urine. This lasted three months, and meanwhile atrophy appeared in the muscles of the thenar and hypothenar eminences and in the interossei, producing a claw-hand. The muscles of the left side of the abdominal wall wasted, and when the child cried or exerted itself projected into a well-marked prominence. The muscles of respiration were unaffected, and there was no loss of intelligence. A marked dorso-lumbar scoliosis with the convexity to the left developed due to the weakness of the muscles of the spinal column. The paralysis of the legs was almost complete. The case is unusual in its long initial fever, the extent and duration of the paralysis, with the affection of the spinal and abdominal muscles and the urinary trouble. A symmetrical Aran-Duchenne paralysis of the hands is also unusual. All the affected muscles showed the usual reaction of degeneration.

J. PORTER PARKINSON.

Idiocy and mental deficiencies in early childhood (*The Post-Graduate*, February, 1909).—**Sheffield**.—Idiocy is either congenital, due to ante-natal disease, or arrest of development of the fetal nerve system, or due to traumatism, or to disease or defective development in early childhood. It is very important to get a family history, dipsomania, syphilis, domestic troubles or severe disease in the mother during pregnancy being specially suggestive. A history of infantile convulsions suggests some pathological alteration of the central nervous system which may predispose to mental impairment. The shape of head may be hydrocephalic or microcephalic, and devoid of posterior projection, with prematurely ossified fontanelles, eyes small, ears projecting. In the syphilitic the head is irregularly bossed and traversed by blue prominent veins. Nose small and saddle-shaped; lips thick and with rhagades. The Mongol has a small rounded cranium, flat at the back, face sunken, nose small and broad, cheek-bones prominent and tongue protruding. The skull of the cretin is largish, sparsely covered with thin lustreless hair, set on a short thick neck. Face weak and senile, eyelids and lips thick, tongue heavy and often protruding. The teeth of the majority of idiotic children are irregular, the lips often malformed, the palate high, narrow, and often cleft. Ears may be asymmetrical. Most idiots are undersized, with deformities of the thorax and spine, large abdomen, small pelvis and herniæ. The genitalia are often undeveloped and malformed. The hydrocephale has often spastic paraplegia with athetosis and contractures of the arm muscles. The syphilitic may be helpless owing to deformities of the extremities and joint disease. The Mongol walks late and has weak joints. The paralytic idiot has a paralytic gait. In infantilism a radiogram shows backward development of the centres of ossification of the carpal and metacarpal bones. Idiots often show stigmata of degeneration, asymmetry, malformation, superabundance or deficiency of fingers or toes, club-foot, congenital cataract or other eye lesions, etc. Defective hearing is uncommon, but taste and smell may be defective, and a voracious appetite is frequent. Sensation to touch, pain, heat and cold is defective. The power of attention is either poorly developed or completely absent.

J. PORTER PARKINSON.

Infantile disseminated sclerosis (*L'Echo Med.*, January, 1909).—**Garhlinger** records the case of a boy, aged 6 years, who for a fortnight had suffered from weakness and tumbling of the lower extremities. His family and personal history were good. The first symptom was enuresis at night on January 30. A fortnight later the legs were noticed to be easily tired and the gait peculiar, speech was altered, and the movements of the hands unsteady. On February 18 he was brought to the hospital. The face was expressionless, slight paresis of the external rectus of the left eye causing convergent strabismus. No nystagmus or fundal changes. The lower part of the face was weak on the right side. The tongue deviated to the left and showed coarse involuntary movements. There was intention tremor of the arms, especially of the left. The trunk and head oscillated on sitting up. The lower limbs showed intention tremor. The child could only walk when supported, the limbs were abducted, the knees raised too high, and the foot put down suddenly. There was no obvious muscular atrophy. Speech was slow, monotonous and explosive. The tendon reflexes were exaggerated. Babinski's reflex is indefinite. The mind is well developed. There was no trouble of sensation, general or special. The sphincters were normal. No headache. Cerebro-spinal fluid normal. Ophtho-mo-tuberculin reaction

present. The lungs were normal, but some enlargement of the tracheo-bronchial glands was present. Later on slight vertical nystagmus appeared. The author discusses the diagnosis from hysteria, chorea, Little's disease and cerebral tumour. Classical authors consider disseminated sclerosis a disease of adults only, but Charcot described a case at the age of fourteen and Sachs one at twelve years. Oppenheim considers that the disease when it appears in the adult has begun in infancy by difficulty of speech, syncope, troubles of sight, etc., and Fürstner is of the same opinion. The author details and discusses eighty-six cases brought forward by other authors, in most of which, however, the diagnosis was doubtful, and he considers that the existence of disseminated sclerosis as a disease of early childhood is doubtful.

J. PORTER PARKINSON.

Large amyloid liver in a boy, aged 9 years ('*Glasgow Med. Journ.*,' August, 1908).—**Edward Wright**.—Patient had caries of the spine and phthisis pulmonalis. The liver was greatly enlarged, extending down to the pubes, filling the right iliac fossa, and passing across to the left side to about a line with the left nipple. The margins in front and at the left side were very distinctly felt on palpation, and the notch passed upwards just below the umbilicus. It measured nine inches from above downwards and fourteen inches from side to side. The kidneys were enlarged, the left being quite palpable and tender on pressure. There was a slight amount of albumin in the urine. He had one attack of diarrhoea while under observation, and used to suffer from periodic attacks of epistaxis.

JAMES E. H. SAWYER (Birmingham).

Pathology.

The pathology of scarlatinal adenitis ('*Allgemeine Wiener medizin. Zeitung*,' October 6 and 13, 1908).—**Blacher**, from a complete bacteriological and histological study of six cases of fulminating scarlatina, concludes that there is very seldom streptococci to be found in the blood; that the glands are affected by streptococci on the third day and that there is together with a coagulation necrosis an ulcerative necrotic process. The coagulation necrosis is due to the presence of streptococci, whilst the ulcerative process, which is the dominant feature in the pathology of scarlatina, is not affected by the streptococci.

M. D. EDER.

Leucocytosis in diphtheria ('*Univ. of Pennsylvania Med. Bull.*,' 1908, p. 222).—**H. T. Karsner** examined the blood in thirteen cases, and found that a varying degree of leucocytosis occurs in diphtheria except in very toxic or mild cases, in which it is occasionally absent. The administration of antitoxin was not found to affect the leucocytosis in any respect.

J. D. ROLLESTON.

Examinations of the pepsin secretion in normal and sick nurslings ('*Berl. Klin.*,' March, 1908, No. 2).—**Rosentern's** recent investigations on the gastric secretion in infancy were carried out according to the method of Jacobi, which depends upon the fact that an emulsion of ricin and hydrochloric acid is made clear by the addition of pepsin. As a test meal tea sweetened with saccharin was used in preference to milk. The author summarises his results thus: The pepsin secretion of healthy arti-

ficially fed infants increases with age up to three months, when it reaches a point at which it remains constant. Breast-fed infants secrete less pepsin than artificially fed babies at a corresponding age. The quantity of pepsin secreted by the stomach does not vary according to the state of nutrition, but is more or less constant for the age of the infant. Thus older children, who are under weight, secrete pepsin in correspondence with their age and not with their weight. Acute or chronic digestive disturbances do not diminish the quantity of pepsin, but when food decomposes in the stomach the quantity of pepsin is less than normal. In infantile atrophy (the stage of decomposition in Finkelstein's classification of alimentary intoxication) there is thus marked diminution in the quantity of pepsin secreted. The author does not believe that the diminution of ferment in the stomachs of infants leads to definite symptoms or plays an ætiological rôle in the digestion of infants.

T. R. WHIPHAM.

Adrenalin glycosuria as a means of investigating the hepatic functions (*'La Pédiatrie,'* December, 1908, p. 884).—V. Brun injected 1 c.c. of Parke Davis's solution, and found that glycosuria occurred not only in individuals in whom the hepatic function was certainly at fault, as could be proved by alimentary levulosuria, but also in healthy individuals in whom the reaction with levulose did not give a positive result, however small. When the reaction is positive it presents various oscillations which are not constant and is not in direct relation with alimentary levulosuria, which hitherto has represented the most delicate method of investigating the hepatic functions; it is often wanting when this latter is positive and *vice-versâ*. The quantity of sugar in the urine in the human subject in positive cases is so very small as to be of hardly any practical value. The positive reaction of sugar in the urine of adrenalinised individuals, besides being extremely slight, is often found in individuals whose liver is certainly sound and functionally perfect, and in these cases is the expression of some modification of vital activity dependent on modification of vascular tone rather than indicative of any pathological condition. For these reasons the author considers that this method cannot with advantage be substituted for those hitherto in use, such as alimentary levulosuria, which is very much more delicate.

VINCENT DICKINSON.

Therapeutics.

The prophylactic use of diphtheria antitoxin (*'Canadian Pract. and Rev.,'* November, 1908, p. 683).—W. Goldie writes from his experience at the Hospital for Sick Children, Toronto. Prior to the prophylactic use of antitoxin thirty-two to forty-eight cases of clinical diphtheria used to occur each year in hospital among a yearly population of 780. The prophylactic administration of 500 units every three weeks, which was soon changed to 1000 units every three weeks, was followed by a fall to seven or eight cases yearly. The interval between the injections was finally reduced to two weeks, and the number of cases within the last four years has fallen to nineteen. Five of these were cases of bacteriological diphtheria arising in measles with laryngeal symptoms. In the remaining twelve the serum had either been withheld or the interval between the injections had been too long. In only two out of 4084 children injected did any alarming symptoms follow injection; both recovered. The percentage of diphtheria cases among the hospital staff who never received prophylactic injections has remained the same.

J. D. ROLLESTON.

Opium in the therapeutics of infancy (*L'Echo Med. du Nord*, December, 1908).—**Delèarde** states that it is the custom to employ very small doses of the drug to infants. The first to break with the old traditions is Borde, of Bordeaux, who has shown the tolerance of infants to opium, especially in acute gastro-enteritis of infectious origin. He finds the urine increases and the number of stools diminish, without causing any symptoms of retention of toxic material. The abdominal tympanitis lessens. It should be noted that Pal showed that morphia did not paralyse the intestine, but regulated its contractions. Vomiting is also stopped. The morphia is given in the form of the syrup of morphine (of the French Pharmacopœia) and is made up to 100 c.c. in different strengths for different ages. For example, at the age of one month 2–3 grm. of the syrup, 3 months 5 grm., 6 months 9 grm., 1 year 13 grm., 18 months 16 grm., 2 years 18 grm. Of this solution a dessert-spoonful is given every hour, day and night, till the child falls asleep. On awakening the treatment may be continued. The child becomes much better after twenty-four hours, the temperature has fallen, and the diarrhœa and vomiting, if not ceased, have much improved. During this time milk is stopped, and decoction of cereals given instead. By this method the infant of 3 months is given $\frac{1}{4}$ centigramme of extract of opium. Delèarde employs the following modification of this method: he gives every three hours a mixture of paregoric elixir of opium with gum acacia and orange flower water, the elixir being given in the doses of 5 grm. per year of age. For example, to an infant of 3 months 1.25 grm., and double that quantity to an infant of 6 months, and so on. This elixir in 10 grm. contains 5 centigrammes of opium extract. He considers the advantage of the opium treatment is the more rapid return to ordinary alimentation. The contraindications for opium are—pulmonary affections, great wasting, and chronic enteritis. Sometimes he adds lime-water to the medicine, and occasionally lactic acid. Opium is also of great value in the spasm accompanying laryngeal affections in the infant, and also in whooping-cough, when it lessens much the violence of the cough and the accidents resulting from this.

J. PORTER PARKINSON.

Otology, Laryngology, and Rhinology.

On the anatomical varieties and their bearing on the treatment of pathological conditions of the palatine tonsils (*Lancet*, February 13, 1909).—**Seccombe Hett** has an article with the above title. His conclusions are based upon the examination of 100 different species of mammalian pharynges and of 1000 pathological tonsils in living human subjects. He classifies tonsils as (1) imbedded; (2) projecting; (3) flat; (4) hanging; (5) tonsils with preponderance of anterior, middle or posterior masses, or of a combination of these; and (6) tonsils with marked lingual prolongation. He points out that sepsis and not size is the criterion for the necessity for surgical interference. As regards operation, he considers that enucleation is undoubtedly the ideal method, especially with the imbedded tonsils of young children. When it is not done, he advises the employment of the vulsellum in conjunction with the guillotine. The paper should be read in full.

MACLEOD YEARSLEY.

Spasm of the isthmus faucium in children (*La Pediatria*, February, 1907).—**Antonio Jovane**.—Three cases of dysphagia in children only in respect of solids are described. All three children were deficient in

intellect. One case is worth reporting fully: a boy, aged $1\frac{1}{2}$ years; parents blood-relations; one brother with the same difficulty in swallowing, breast-fed. Solid food first returned at one year old, when mother noted he began to keep it a long time in his mouth, to chew it, and then spit it out. If compelled to swallow it, choking and eventually vomiting ensued. Fluids were easily swallowed. The child was well nourished but rachitic, his palate was hyperæsthetic, and he was an imbecile. The dysphagia disappeared gradually at the age of three.

MACLEOD YEARSLEY.

Ear complications of scarlet fever and diphtheria (*'Practitioner,'* January, 1909).—**MacLeod Yearsley** discusses the ear complications in the two diseases exhaustively. In diphtheria he considers (1) diphtheritic inflammations of the meatus, (2) of the Eustachian tube and middle ear, (3) acute purulent and non-purulent inflammations of the middle ear without the formation of membranes, and (4) internal ear affections. The conditions met with in scarlet fever he considers as due to (1) the toxins of the disease, (2) extension from the throat, or (3) the general weakness due to the fever. Treatment is discussed exhaustively, and he quotes the work at the Monsall Fever Hospital as showing that 84·5 per cent. of the cases of otitis were curable by intra-tympanic methods, and that of those that needed operation the radical method gave the best results. He concludes with some remarks on the relation of scarlet fever and diphtheria to deaf-mutism.

MACLEOD YEARSLEY.

Phlebitis without thrombosis as a cause of obliteration of the sinus in children (*'Zeitschr. f. Ohrenheilk.,'* LIII, p. 111).—**Kramm**.—A number of cases of obliteration of the sigmoid sinus have been described (references are given), so that it is not very rare for an inflamed sinus which has not received operative treatment to lead to obliteration of the sigmoid. Hitherto it has been held that this must always be caused by previous thrombosis. In some cases, however, inflammatory thrombosis cannot be brought forward as the cause of obliteration. Kramm gives details of two cases in which it was possible to observe the manner of healing of an inflamed sinus in the natural way, viz. by compression and phlebitis by an extra-dural abscess with resulting agglutination of the vessel walls. Both Kramm's cases were children (aged 6 and $5\frac{1}{2}$ years respectively), in whom the sigmoid groove is considerably flatter than in adults. He asks: Does the simple, *i. e.* non-thrombotic, sinus obstruction occur fairly frequently in childhood? and says the answer must be determined in the future.

MACLEOD YEARSLEY.

Arterial hæmorrhage from the auditory meatus in a child, after a brief attack of otitis media acuta following tonsillitis with tonsillar abscess; ligature of the common carotid; uneventful recovery (*'Arch. of Otol.,'* XXXVII, p. 547).—**Spalding** records this rare case. A boy, aged 5 years, had tonsillitis, rapidly followed by right tonsillar abscess, three weeks before coming to hospital. Acute otitis set in on the same side. After one day's pain the membrane perforated, giving exit to a large amount of steadily flowing serous discharge, without blood, which continued for four days before the child was admitted. On the seventeenth day sharp arterial hæmorrhage occurred without warning. The meatus was plugged, with the result that blood flowed from the nose and mouth and much ran into the stomach, bleeding ceasing only when the child fainted

from loss of blood. Fresh hæmorrhages occurred on three successive days. On the fourth day the patient was admitted to hospital. Further plugging with adrenalin and hypodermic injection of calcium chloride was tried, but a fresh and abundant hæmorrhage occurred next morning, the patient being comatose from loss of blood; temperature 102° F., pulse 170, respirations slow and hardly perceptible. The common carotid was tied, the mastoid opened and carefully cleansed of pus and *débris*. Immediate improvement followed, the pupils, which had been before unequal (right pin-head, left widely dilated), returning to equal size. Recovery was uneventful and rapid. The rarity of these cases is such that this is only the twenty-second on record. Spalding refers to Spencer's paper ('*Med.-Chir. Trans.*, vol. LXXIV, p. 373), in which it is noted that in six cases of this class (acute otitis media in children), two died in which ligation was not performed, and four recovered when the common carotid was tied. The youngest child was three years old, the oldest eleven. The time between the onset of the otitis and the hæmorrhage varied from ten days to two months.

MACLEOD YEARSLEY.

Bacterial suspensions in the treatment of aural suppuration ('*Arch. of Otol.*, xxxvii, p. 564).—**Ray Connor** gives details of eleven cases of aural suppuration, varying in age from four days to six years, treated by vaccines of the organisms found by cultures from the discharge. The organisms found and the corresponding vaccines used were: Pure streptococcus 1, streptococcus and *Staphylococcus aureus* 2, streptococcus, *Staphylococcus aureus* and *albus* 1, *Staphylococcus aureus* 1, *Staphylococcus albus* 1, Friedlander's pneumo-bacillus 1, pneumococcus and diphtheria bacillus 1, pyocyanus 1, *B. coli communis* 1, and one of the proteus group 1. In no case was there ever any trouble at the site of inoculation, nor were the general symptoms ever alarming. Connor's conclusions are: (1) The method is not available for routine or general use in chronic aural suppuration. (2) Those cases in which free drainage has been established by operation are most likely to be benefited. (3) Benefit may be obtained in some intractable cases which resist all other methods of treatment. (4) Secondary operations may sometimes be avoided.

MACLEOD YEARSLEY.

Non-suppurative involvement of the labyrinth in the course of mumps ('*Journ. of the Amer. Med. Assoc.*, December 5, 1908).—**G. W. Boot** reports two cases of this serious (but, luckily, uncommon) complication of mumps, one in a man, aged 21 years, one in a girl, aged 12 years. The latter suffered from left tinnitus and deafness on the first day of her attack. She was examined two months later and both tympanic membranes were normal and she was totally deaf in the left ear for any part of the scale. Subsequent to the onset of the parotitis she was confined to bed for two weeks with severe dizziness and vomiting. On recovery there was no noticeable disturbance of equilibrium. The author analyses, in an excellent table, 51 cases, being the 2 reported with 49 from the literature. The average age of the 22 males and 22 females was eighteen years, and the relative ages, given in decades, were as follows: 1 to 10, 1 male, 5 females; 11 to 20, 11 males, 9 females; 21 to 30, 4 males, 7 females; 31 to 40, 3 males, 4 females; 41 to 50, 1 male, 0 females. The analysis shows that there are three distinct types of the complication: that in which the cochlea is chiefly involved, that in which the semi-circular canals are most affected, and that in which the

whole labyrinth suffers. Boot considers the condition to be due to an acute infection by a non-pyogenic micro-organism (probably that described by Bein, Michaelis, and Busquet) reaching the labyrinth by the blood. Prognosis is bad. The best results in treatment have been those from pilocarpin and iodide of potassium. [The serious nature of this complication is one that should be recognised by all practitioners, as the only chance of saving the hearing lies in *immediate* treatment.—M. Y.] The time of onset in the 51 cases varied from four days *before* the parotid swelling to fifteen days after.

MACLEOD YEARSLEY.

Local anæsthesia in adenoid operations ('*Wien. med. Wochens.*, October 10, 1908).—**Hutter** describes an elaborate method for anæsthetising the pharyngeal tonsil. It consists in painting the growth with a 10 to 20 per cent. solution of cocaine, passed through one nostril, left *in situ* for a few minutes and the process repeated on the other side. A straight needle, attached to a hypodermic syringe, is then passed *viâ* the nares into the adenoid growth and a warm 5 per cent. solution of β -eucaine, with 0.8 per cent. of sodium chloride, with five drops of adrenalin, injected. The adenoids are then removed. [Considering that gas or ethyl chloride, *properly administered*, give such excellent results, it is difficult to see what advantage can be gained by the local method of anæsthesia here described. The chief necessity for an anæsthetic in adenoid operations is the discomfort and fright caused by the introduction of instruments into the post-nasal space rather than any actual pain. Hutter's method is not likely to find much favour in England.—M. Y.]

MACLEOD YEARSLEY.

Deaf-mutism from inherited syphilis ('*Bull. et Mém. de la Soc. Française d'Oto-Rhino-Laryngol.*, 1908).—**Castex** gives his latest research into the causes of deaf-mutism. Out of 719 children, he found only 18 cases in which syphilis could be the cause (2.50 per cent.).

MACLEOD YEARSLEY.

Surgery.

Fracture of the skull with rupture of the meninges; trepanning; cure ('*La Med. de los Niños*, November, 1908).—**Battestini** reports the case of a gipsy child, aged 10 years, who was taken into hospital for fracture of the left parietal bone; the meningeal tear was one centimetre long, exposing the fissure of Rolando. There was paralysis of the right leg and thigh, dilatation of the pupil and aphasia. The injury had been inflicted by a stone thrown at the child. After injection of normal saline solution operation was carried out and a blood-clot removed. On the twenty-sixth day the child was quite recovered; there was neither paralysis nor aphasia, the wound had almost healed up, and the child at the insistence of the family left the hospital.

M. D. EDER.

When should treatment of scoliosis begin? ('*Prag. med. Wochens.*, December 10, 1908).—**Eckstein** states that medical inspection of the schools in German Bohemia has shown the existence of 600 children—324 boys and 276 girls—between the ages of 6–14, suffering from spinal deformity. About 95 per cent. of these cripples belong to the poorest section of the community. Rickets is the great cause of scoliosis and is also the form in which prognosis is worse as regards complete recovery.

The author has never seen a case of self-cure, although it is often said the child will grow out of it; there is also no physiological scoliosis. The common form of scoliosis commences about the seventh year and gets worse progressively till the tenth year. It should be diagnosed early and thorough treatment carried out as early as possible; with proper orthopaedic treatment excellent results can always be obtained. The surgeons must get into touch with the teachers, that proper attitudes may be adopted during lessons and all suspected cases notified early.

M. D. EDER.

Foreign body in a bronchus (*'South African Med. Record,' December, 1908*).—**Moffat** records two cases of this accident, one of which occurred in a boy, aged 7 years. Eight days before being seen for dyspnoea and cough he had caught a pistol cartridge in his mouth and it disappeared. He could walk with comfort, but turned blue occasionally after coughing. There was deficient entry of air into the right chest below the fourth rib in front, but no dulness or bronchial breathing. In the third and fourth right spaces was a loud rhonchus. With X rays a foreign body was seen to the right of the spine. Next day there was dulness and absent breath-sounds below the fourth rib in front and the sixth behind. Pulse and temperature were normal, and respirations 20 a minute. A low tracheotomy was done and a nasal polypus forceps gripped the foreign body, which was easily removed. He made a good recovery.

J. PORTER PARKINSON.

Sarcoma of kidney (*'Arch. of Pediat.,' 1908, p. 857*).—**C. C. Rush** records a case in a child, aged 9 months. The urine contained albumin with hyalin, granular, and blood-casts. The tumour, which involved the right kidney, was removed by an extra-peritoneal incision, and proved to be a round-celled sarcoma. The child died two hours after the operation.

J. D. ROLLESTON.

Diphtheria following tonsillectomy and adenectomy (*'Arch of Pediat.,' 1908, p. 853*).—**J. S. Wile** records a case in a girl, aged 17 years. The condition was at first regarded as a post-tonsillectomy exudate, and then as a secondary streptococcic infection. A culture was not taken and anti-toxin was not injected till she had been ill several days. Death took place from toxæmia eight days after the operation.

J. D. ROLLESTON.

Congenital hypertrophic stenosis of the pylorus successfully treated by gastro-jejunostomy (*'Arch. of Pediat.,' 1908, p. 806*).—**A. W. Mitchell** and **J. C. Oliver** record two cases. (1) A girl whose mother and grandparents had suffered from gastric trouble and whose mother was tuberculous started vomiting when four weeks old, and two weeks later showed well-marked signs of hypertrophic pyloric stenosis. Treatment during the fifth and sixth weeks, consisting of frequent very brief nursings, lavage of the stomach, rectal feeds and inunction of lard proved unavailing. In the seventh week posterior gastro-jejunostomy was performed. Some enlarged mesenteric glands, probably tuberculous, were found during the operation. Ten months later the child was in good health. (2) A boy, healthy at birth, began vomiting when three weeks old. After three weeks' medical treatment posterior gastro-jejunostomy was performed. On the eleventh day after the operation the stitches were found to have given way, and a considerable part of the small intestine was found in the dressings.

Secondary suture of the abdominal wall was made. For three weeks after the operation the child had a wet nurse, and then was fed on modified cow's milk. Six months later he was reported to be in good health. The absence of bile in the vomit is regarded by the writers as a valuable differential point in favour of pyloric obstruction as against intestinal obstruction.

J. D. ROLLESTON.

Misplacement of the kidneys with malformation of one of them (*Interstate Med. Journ.*, January, 1909).—**Tuholske and Robertson** report an unusual case of congenital misplacement of the kidneys, one of which was likewise malformed. The condition was found at operation in a woman, aged 20 years. The right kidney lay upon the right side of the lumbar vertebræ, partly upon the bodies and partly upon the transverse processes, and was normal in size. The left was situated between the layers of the root of the mesentery over the third and fourth lumbar vertebræ just to the left of the median line; it was an empty, misshapen sac about three inches in length, communicating with which were two tubular prolongations on the upper side. To the naked eye no renal tissue could be seen, but microscopically the tubular prolongations and the sac were found to contain kidney tissue. The ureter was small, and the renal artery proved to be a branch of the common iliac. Exploratory laparotomy was undertaken for recurrent attacks of severe pain just to the left of the umbilicus. The left kidney and the appendix, which was found to be diseased, were removed. The urine had a specific gravity of about 1020 and contained albumin, the left kidney secreting the larger amount. Microscopically pus and swarms of bacteria were found in the urine from the left kidney, and red blood-cells in that from the right. The patient eventually made a good recovery.

T. R. WHIPHAM.

School Hygiene.

Report on the examination of the elementary school children in Stuttgart for 1907 (*Med. Corr. Blatt. Württemberg. Aertz. Land.*, October 31, November 7, 14, 1908).—**Gastpar** included in his report all the children in classes 1-6; of 10,000 children in the schools 8037 were examined; many kept away because the teachers in some classes did not insist on the inspection. The children were examined simultaneously in three rooms. In the first room, general condition, skin, teeth, glands and adenoids (by inspection only). In the second room the chest was exposed and the heart and lungs inspected, the abdomen only in those cases where there was any complaint. In the third room the eyes and ears were tested, the latter by whispering at eight metres; here the children were also weighed and measured. In the special room the urine in a few cases was also tested. There was also a dark room for eye and ear examinations in special cases. Each child takes seven minutes for the complete examination. Gastpar classifies the children according to their nutrition into five divisions, and the various diseases—skin, etc.—are again grouped according to these five divisions of nutrition. In nearly every case disease is found to be intimately related to the general condition. For instance, in eye disease it rises at one age-period from 8.2 per cent. in well-fed children to 20.5 per cent. in under-fed children; in another age-period the rise is from 10 to 30 per cent. Ear diseases vary similarly from 4.3 to 6.1 per cent.

M. D. EDER.